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1/19

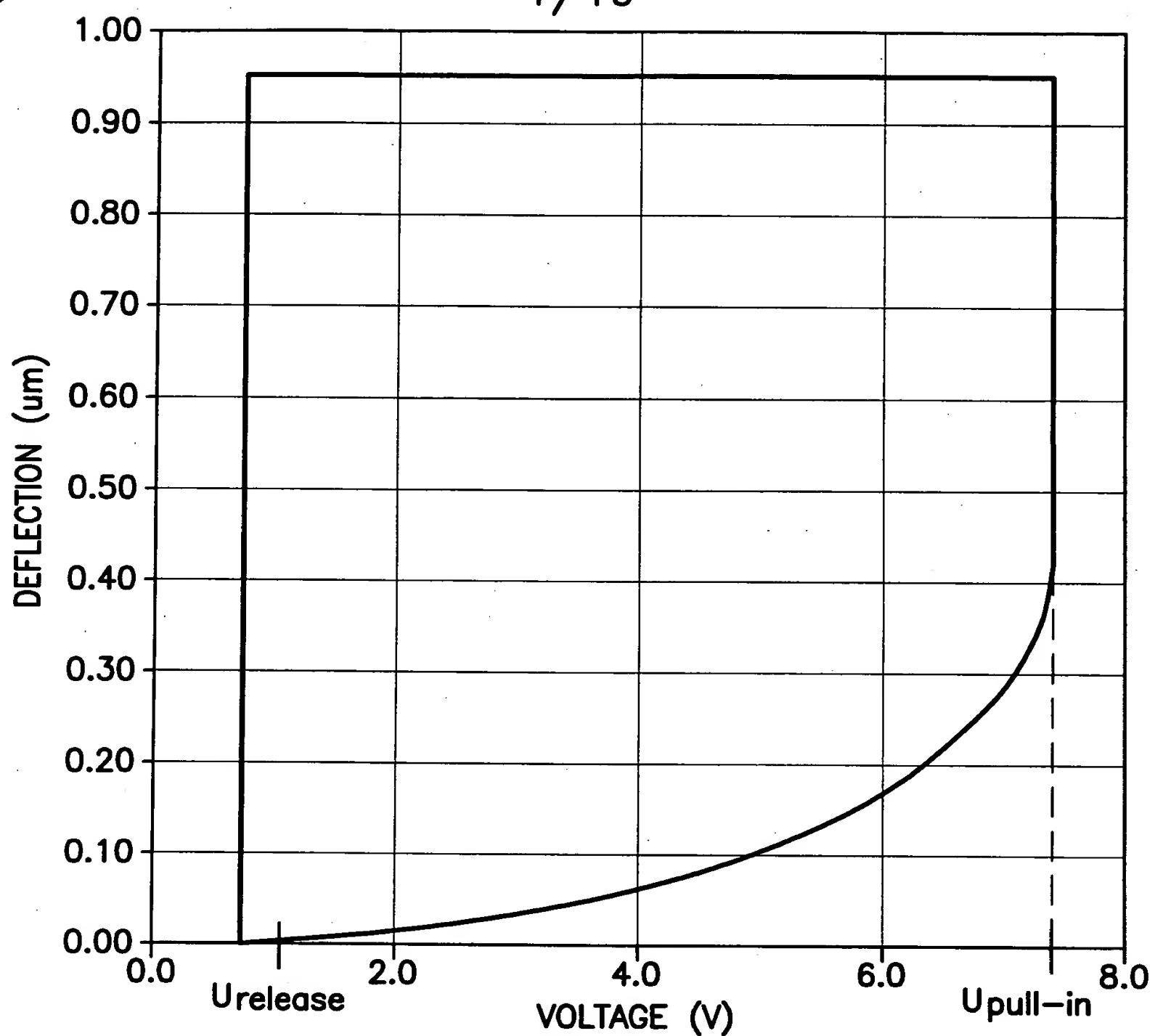


FIG. 1
PRIOR ART

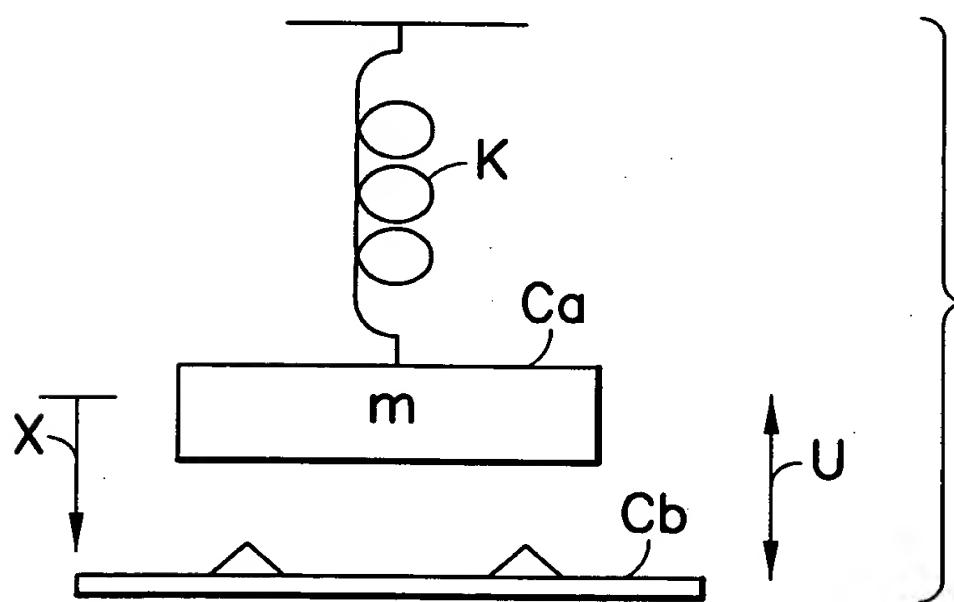
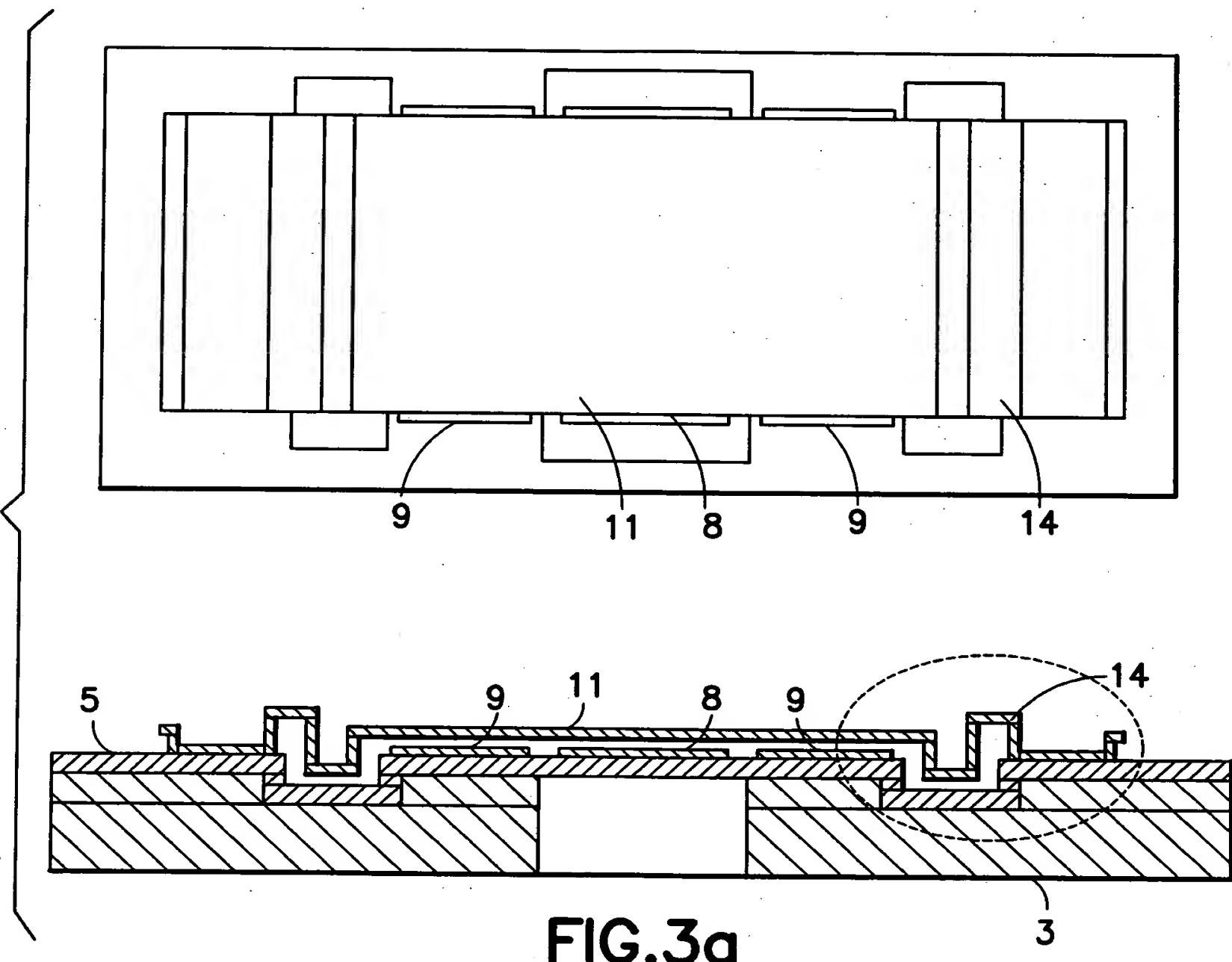


FIG. 2
PRIOR ART



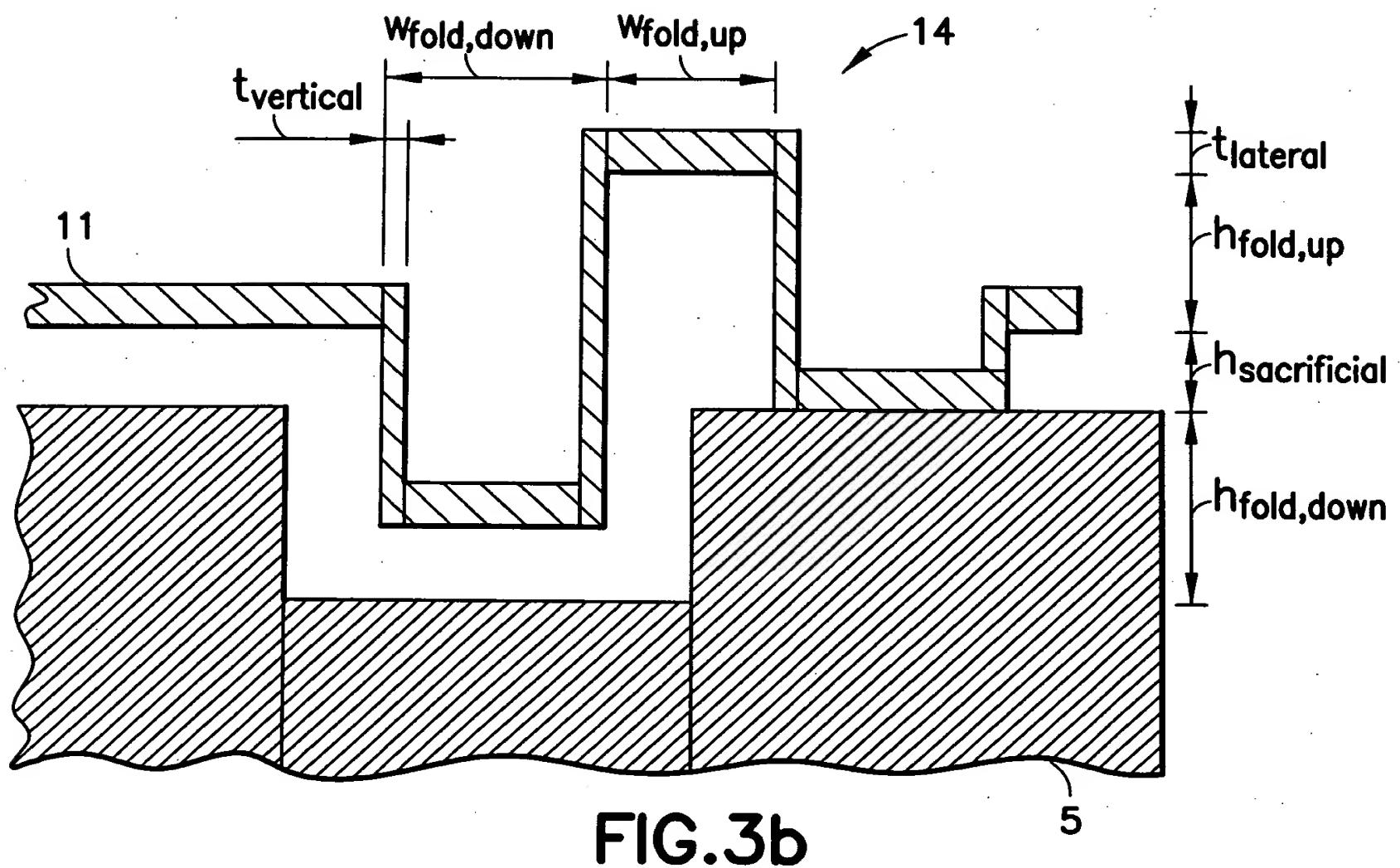
S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 2 of 19
"Replacement Sheet"

2/19





3/19



4/19

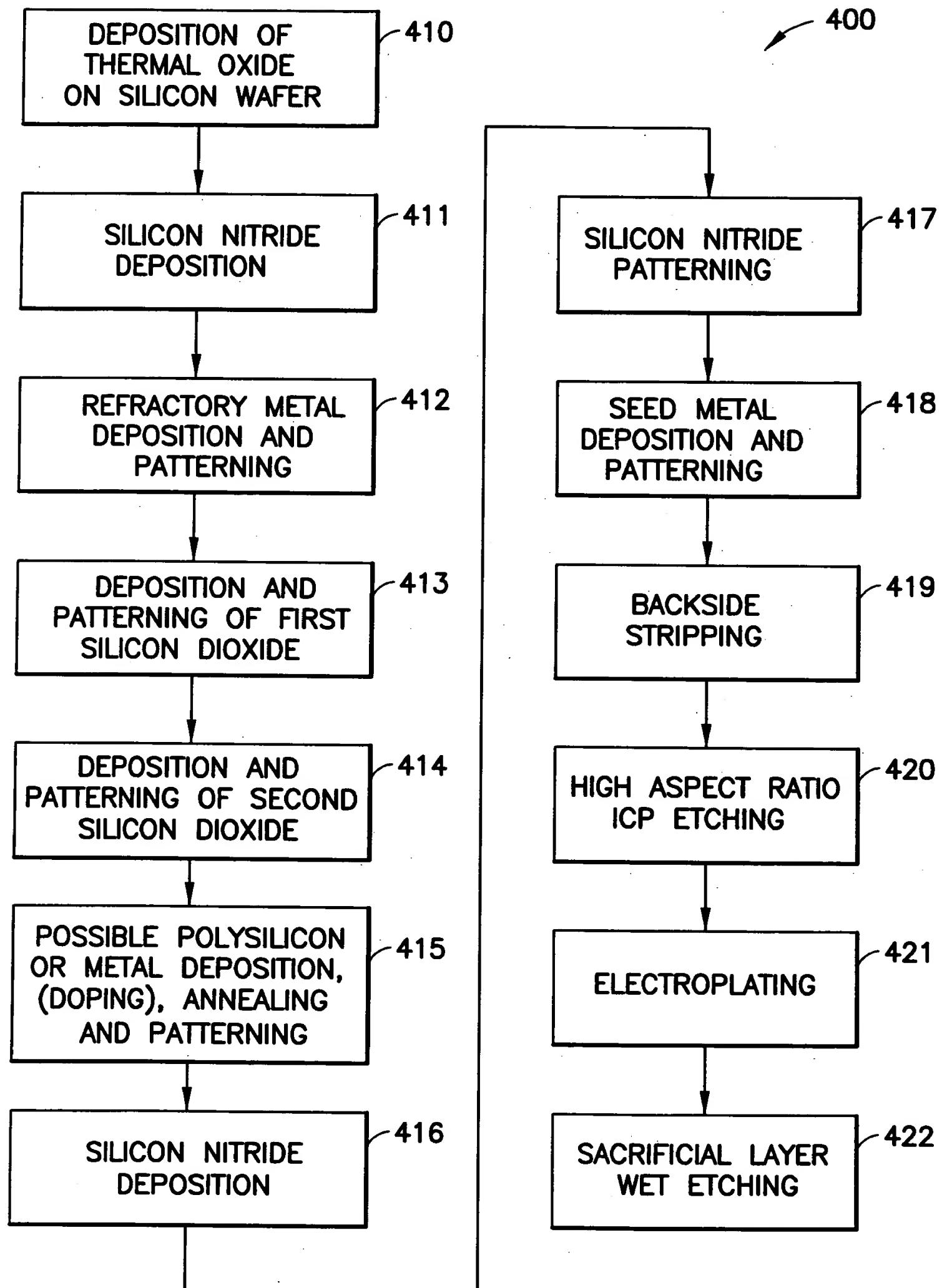
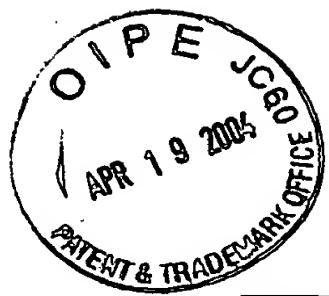


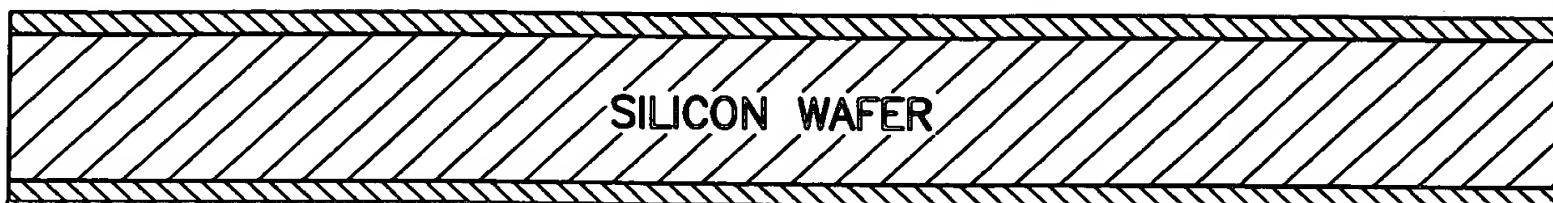
FIG.4a



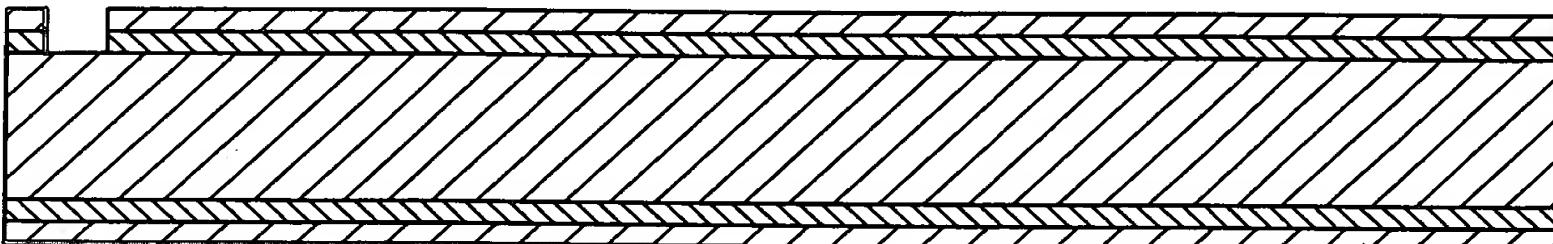
S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 5 of 19
"Replacement Sheet"

5/19

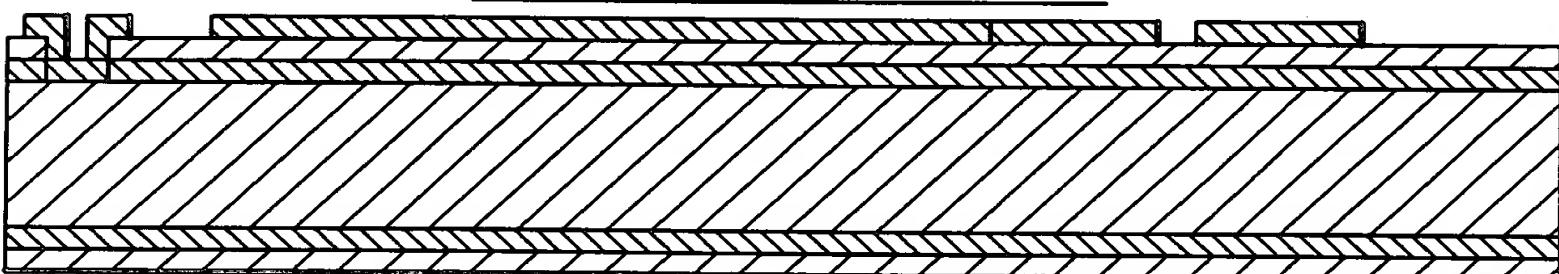
410 THERMAL OXIDE ($\sim 1\mu\text{m}$)



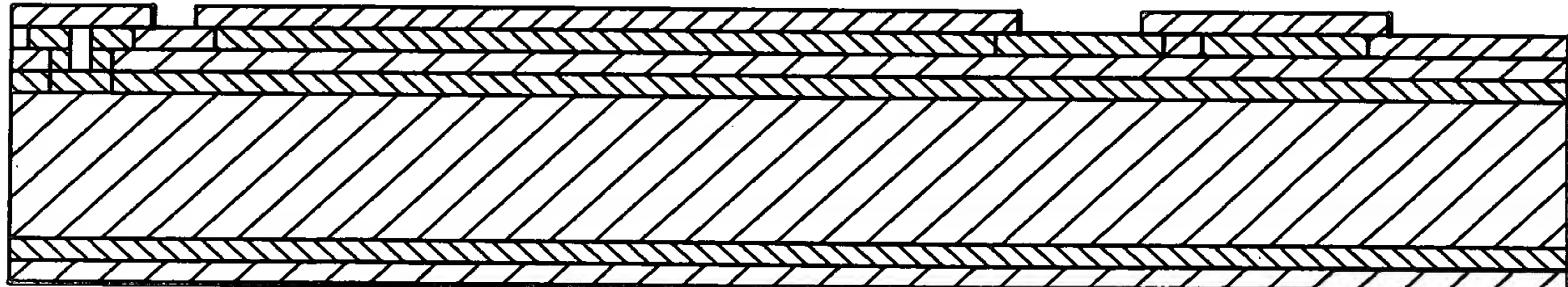
411 SILICON NITRIDE DEPOSITION ($\sim 1\mu\text{m}$) AND PATTERNING



412 REFRACTORY METAL (MOLYBDEEN OR TUNGSTEN)
DEPOSITION AND PATTERNING



413 FIRST SILICON DIOXIDE DEPOSITION AND PATTERNING
(PLASMA) ($0.4\text{--}0.5\mu\text{m}$)



414 SECOND SILICON DIOXIDE DEPOSITION AND PATTERNING
(PLASMA) ($0.5\mu\text{m}$)

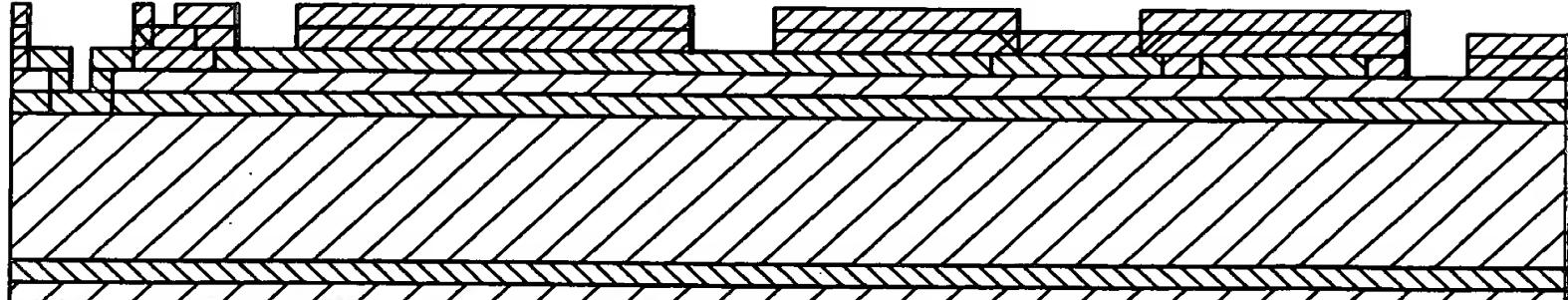


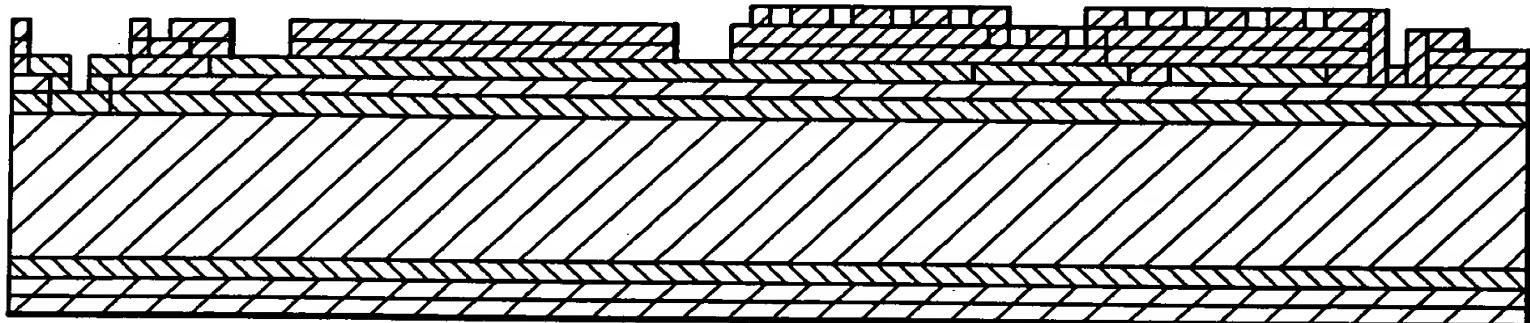
FIG.4b

APR 19 2004

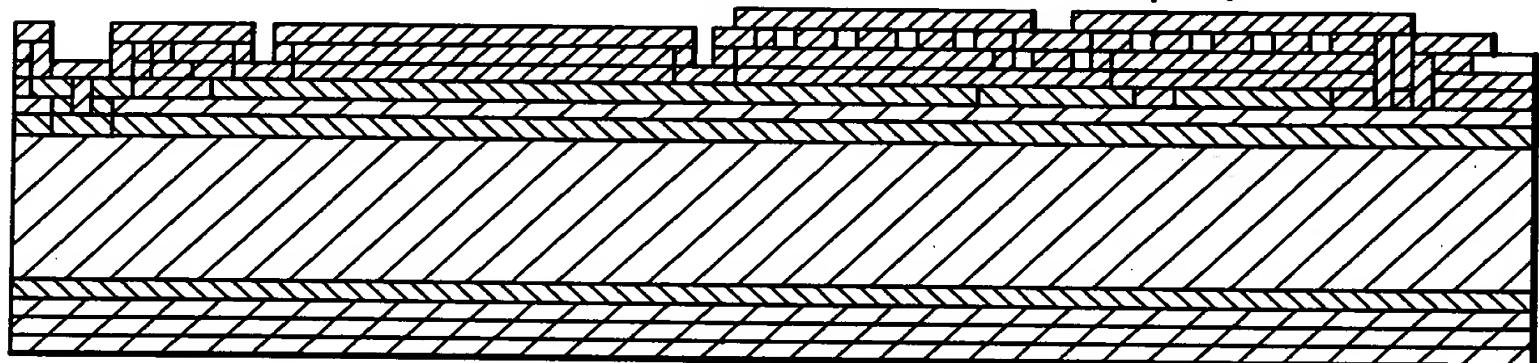


6/19

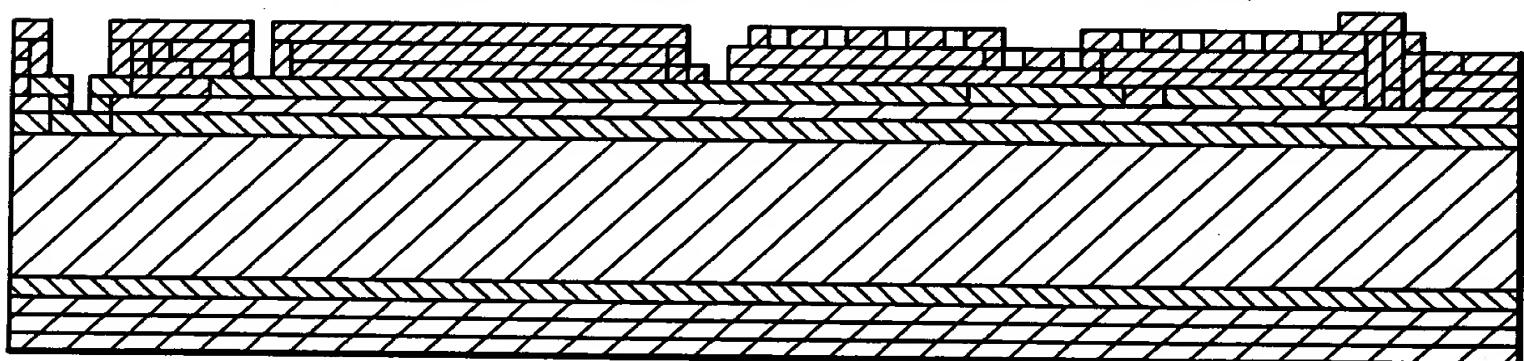
415 POLYSILICON DEPOSITION (2-5 μ m), DOPING, ANNEALING AND PATTERNING; (PolySi:<5 Ω/\square ; TENSILE RESIDUAL STRESS: 10MPa)



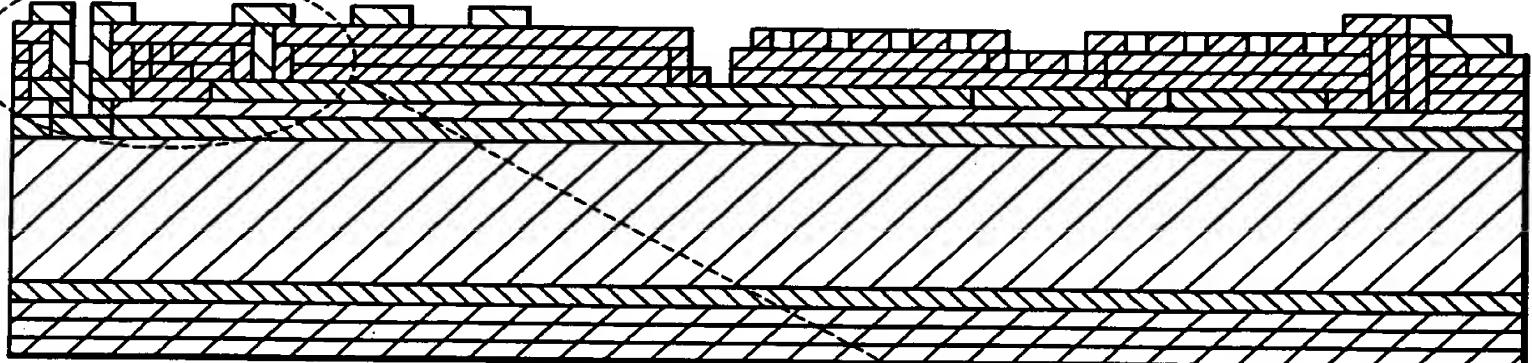
416 SILICON NITRIDE DEPOSITION (0.3 μ m)



417 SILICON NITRIDE PATTERNING (PLASMA)



418 SEED METAL DEPOSITION AND PATTERNING



500 nm Au
300 nm SiN
800 nm SiO₂
500 nm TiW
1 μ m SiN
1 μ m SiO₂

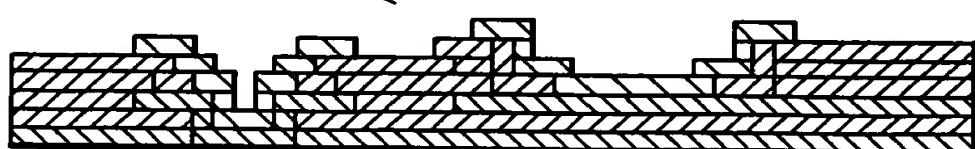


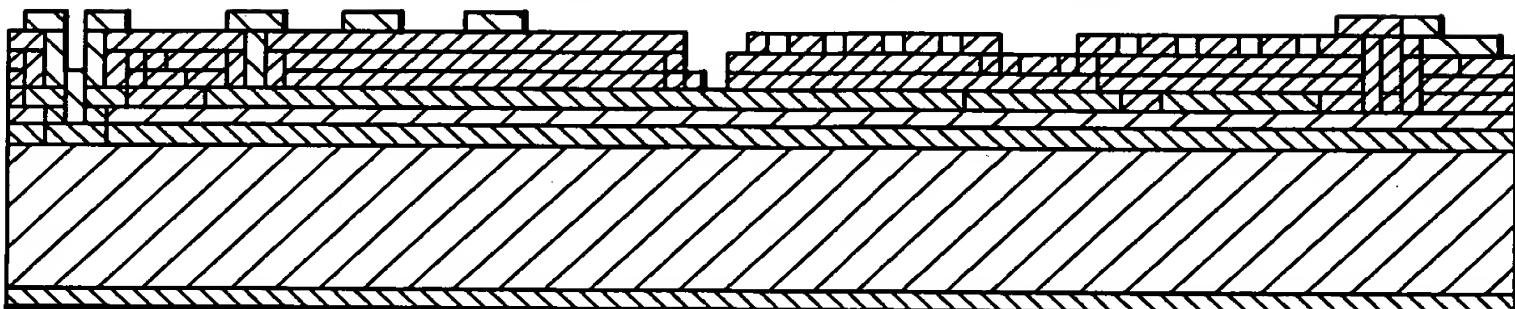
FIG.4c



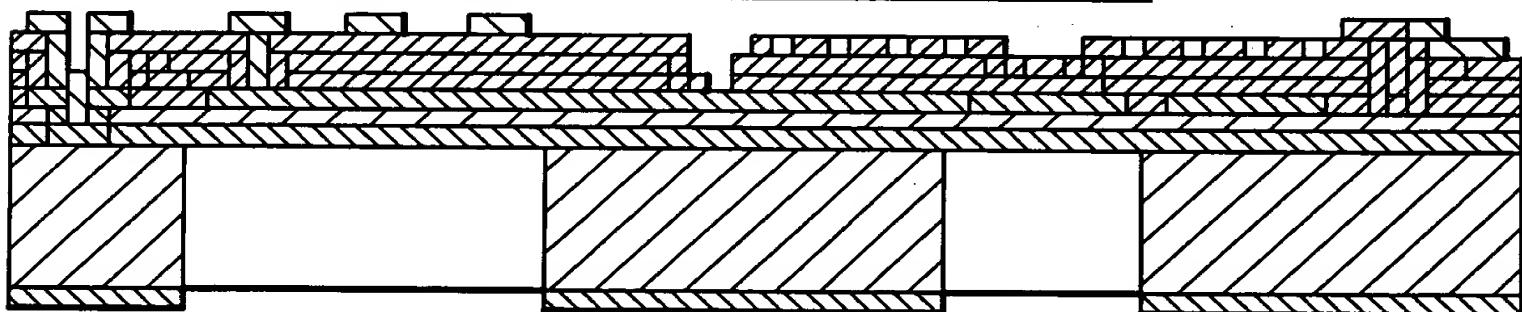
S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 7 of 19
"Replacement Sheet"

7/19

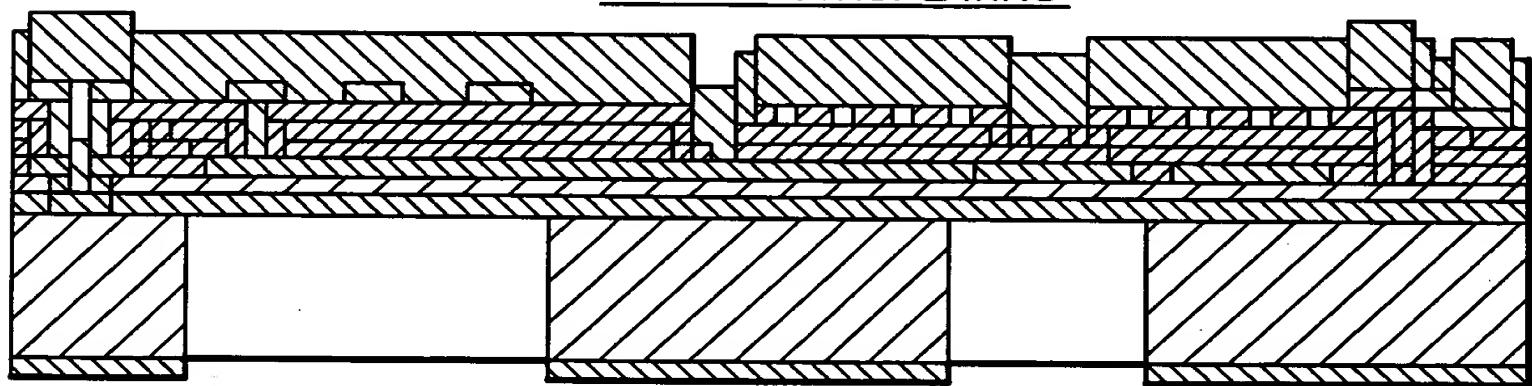
419 BACKSIDE STRIPPING (PLASMA)



420 HIGH ASPECT RATIO ICP ETCHING



421 ELECTROPLATING



422 SACRIFICIAL LAYER WET ETCHING (HF)

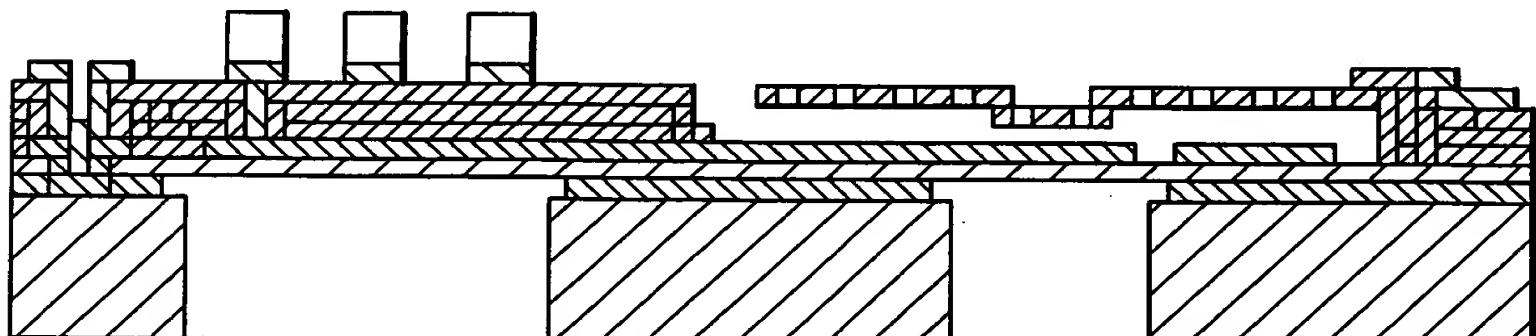


FIG.4d



8/19

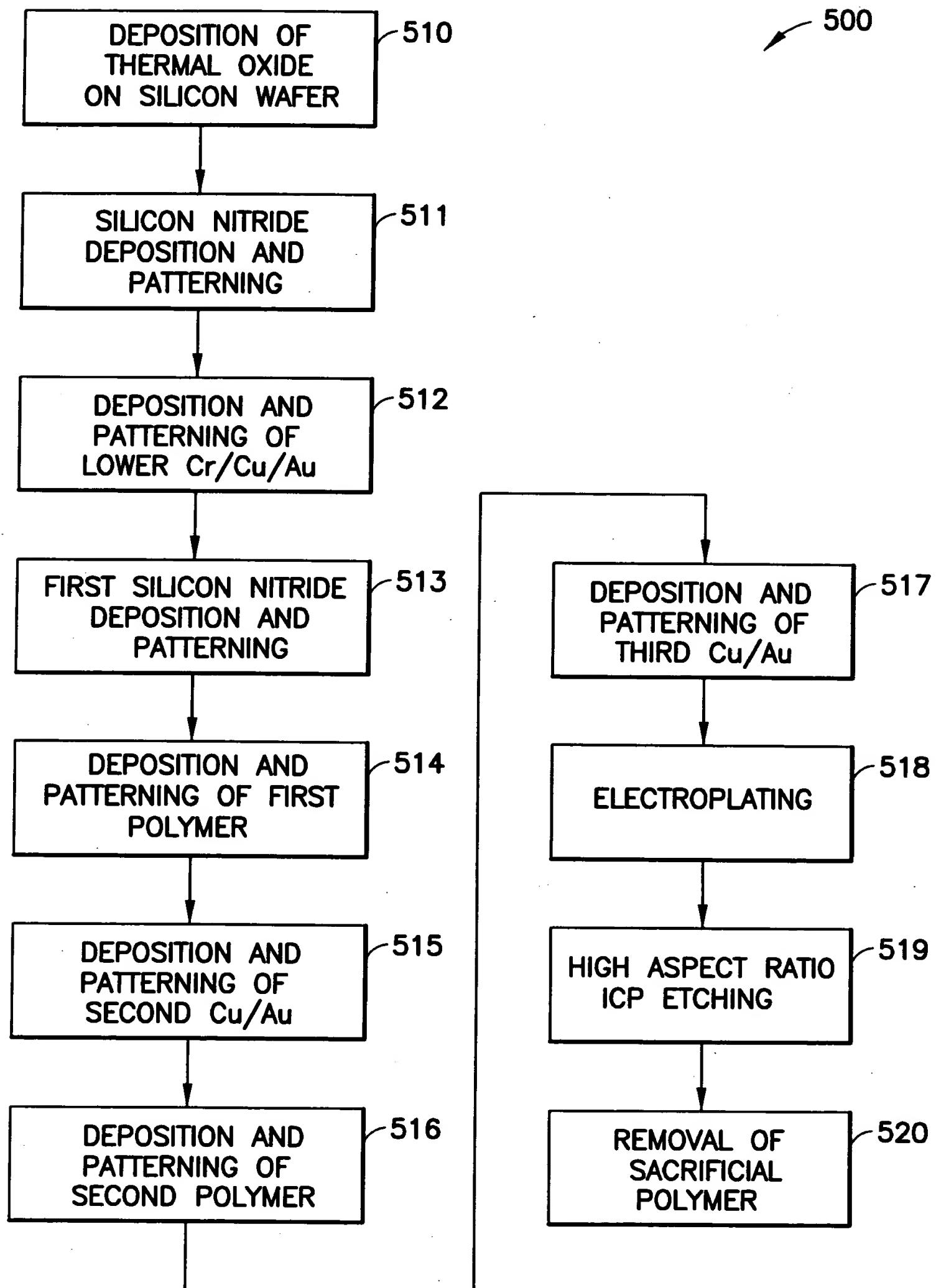


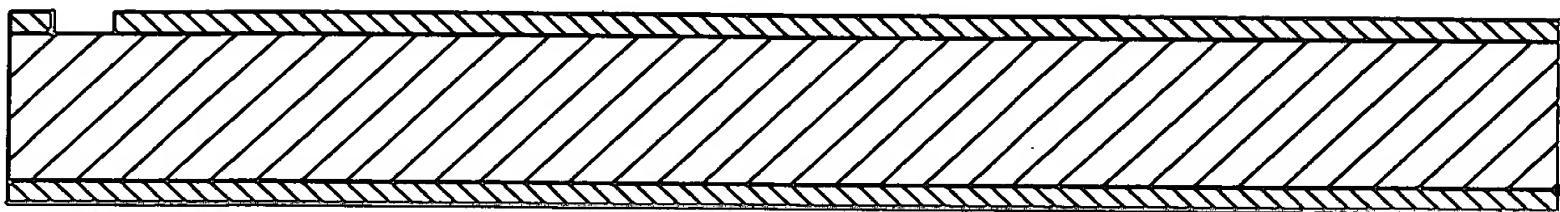
FIG.5a



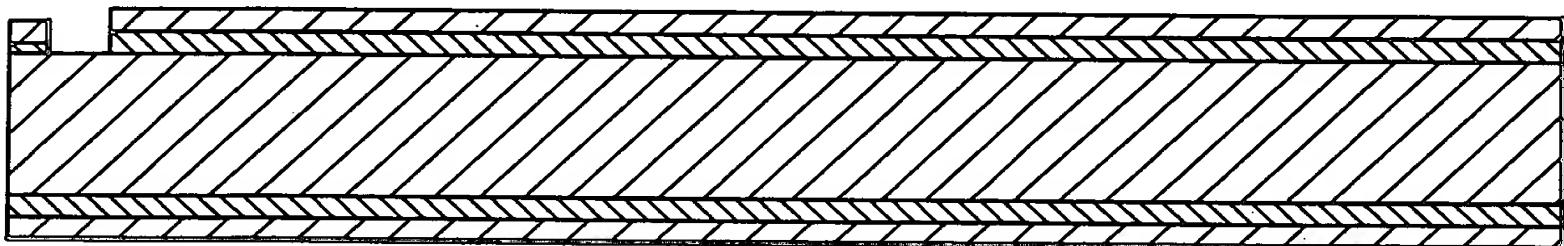
S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 9 of 19
"Replacement Sheet"

9/19

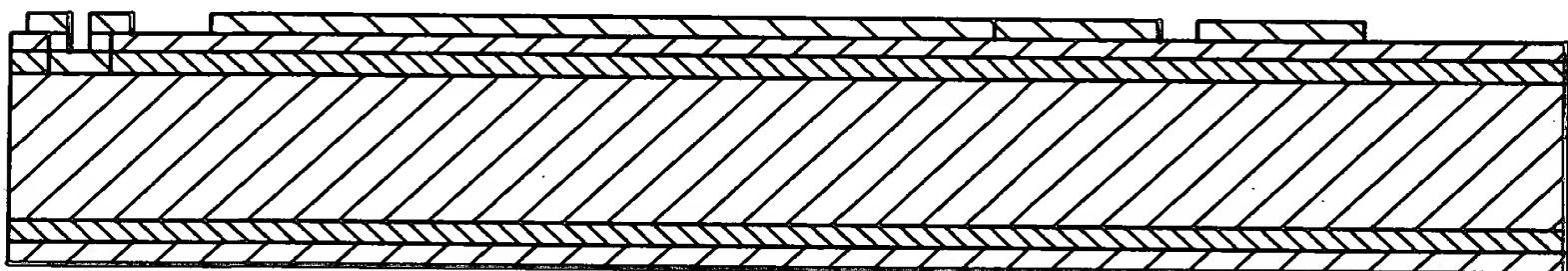
510 THERMAL OXIDE ($\sim 1\mu\text{m}$)



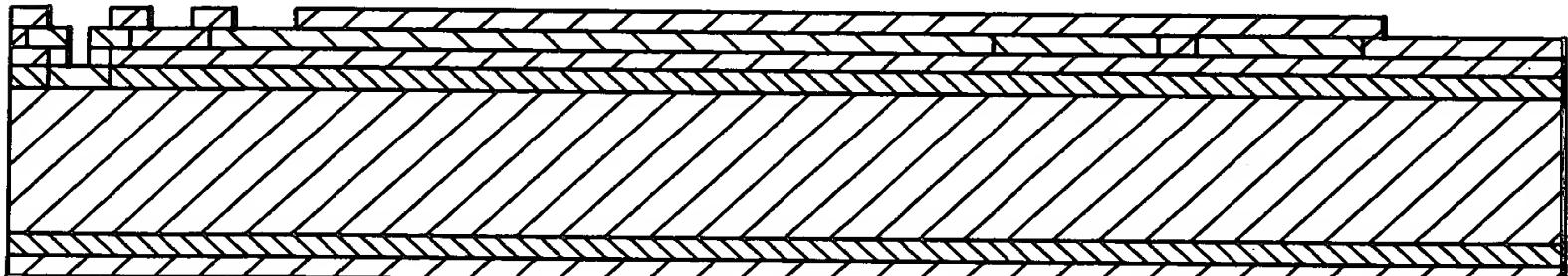
511 SILICON NITRIDE DEPOSITION ($\sim 1\mu\text{m}$) AND PATTERNING



512 LOWER Cr/Cu/Au DEPOSITION AND PATTERNING



513 SILICON NITRIDE DEPOSITION ($0.2\text{--}0.3\mu\text{m}$) AND PATTERNING



514 FIRST POLYMER DEPOSITION AND PATTERNING

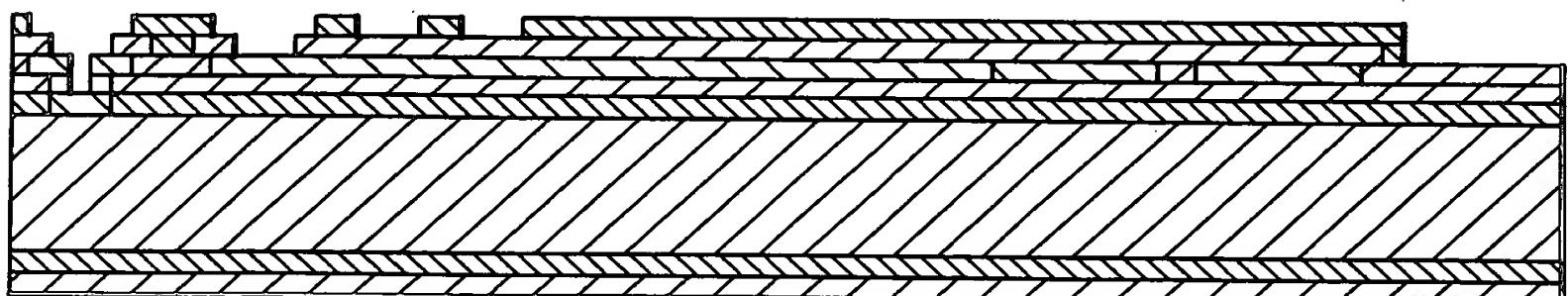


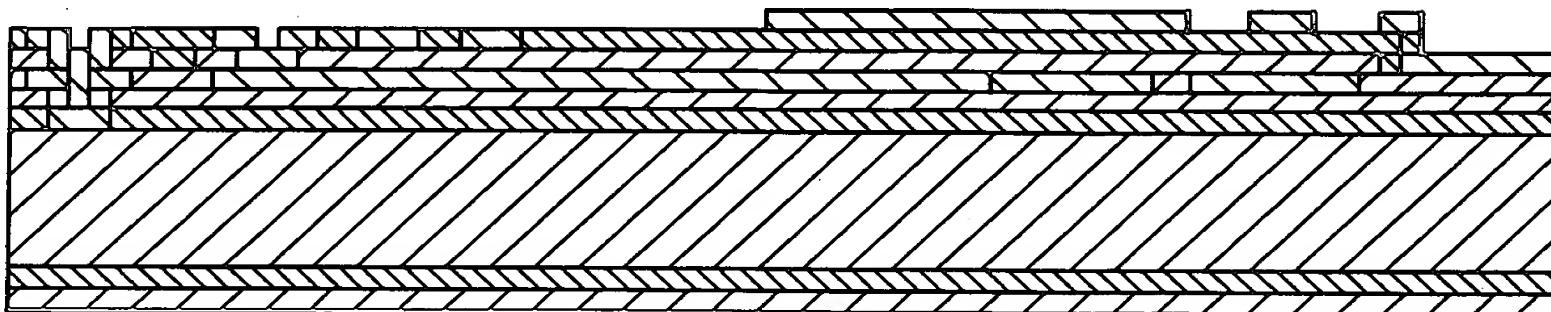
FIG.5b



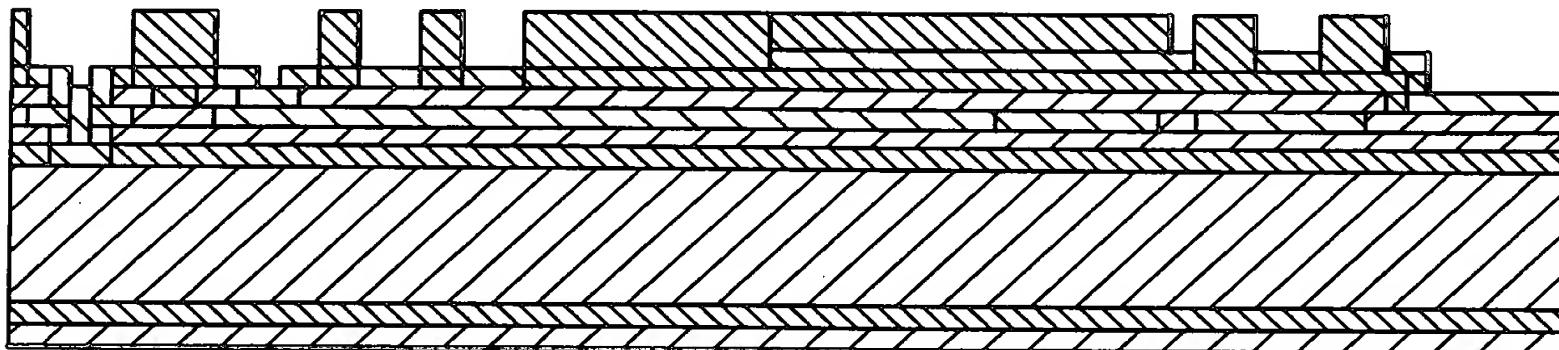
S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 10 of 19
"Replacement Sheet"

10/19

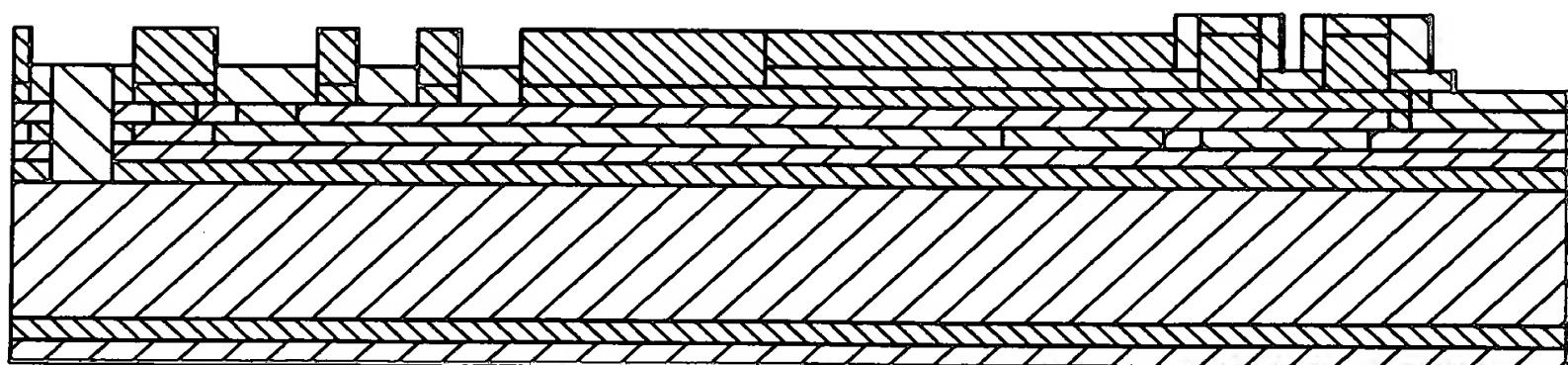
↓
515 SECOND Cu/Au DEPOSITION AND PATTERNING



↓
516 SECOND POLYMER DEPOSITION AND PATTERNING



↓
517 THIRD Cu/Au DEPOSITION AND PATTERNING



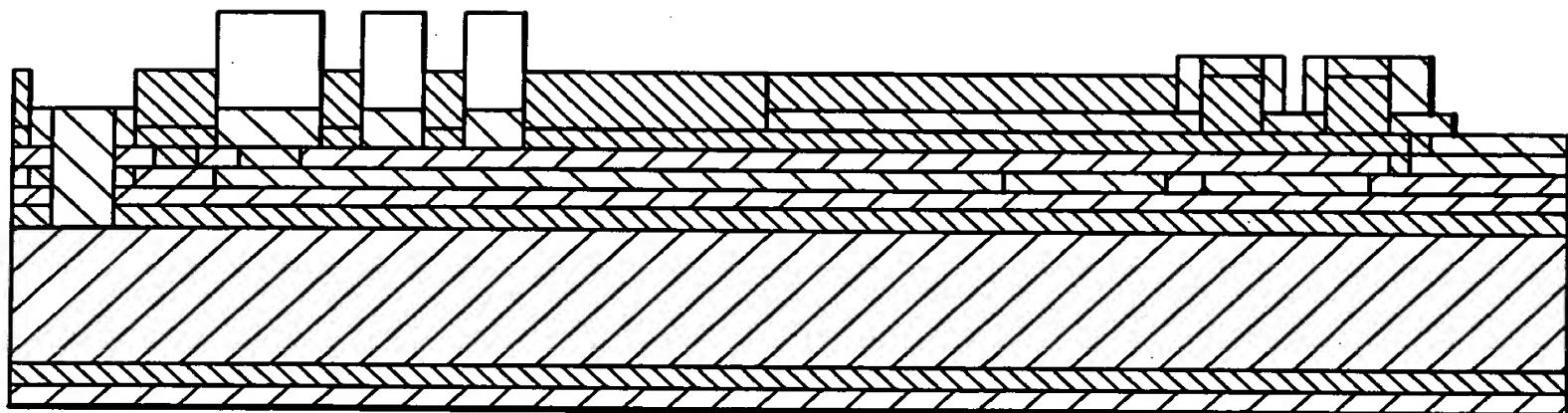
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FIG.5c



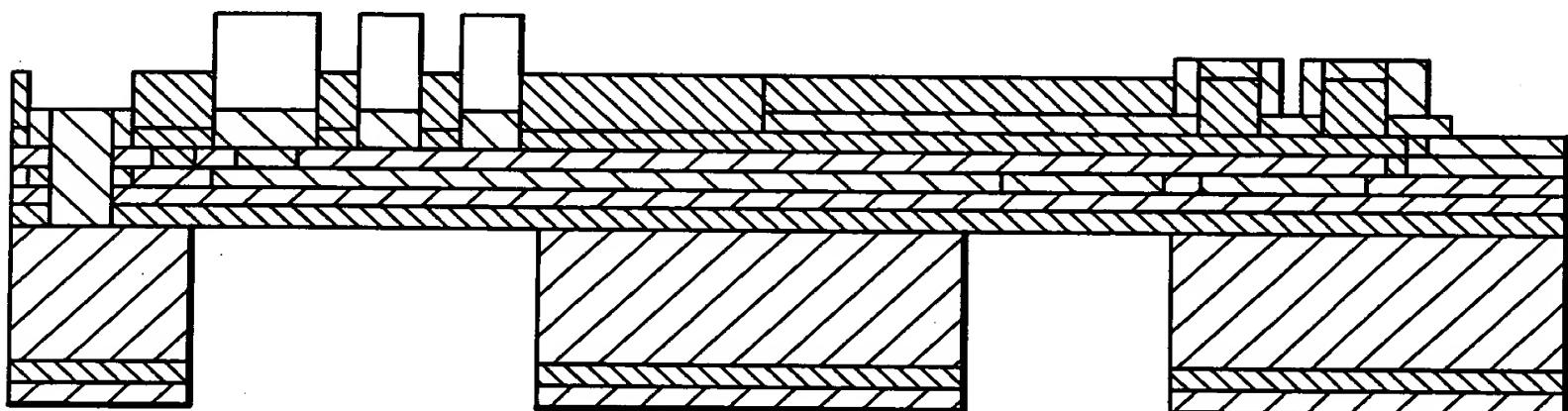
11/19



518 ELECTROPLATING



519 HIGH ASPECT RATIO ICP ETCHING



520 SACRIFICIAL POLYMER REMOVAL

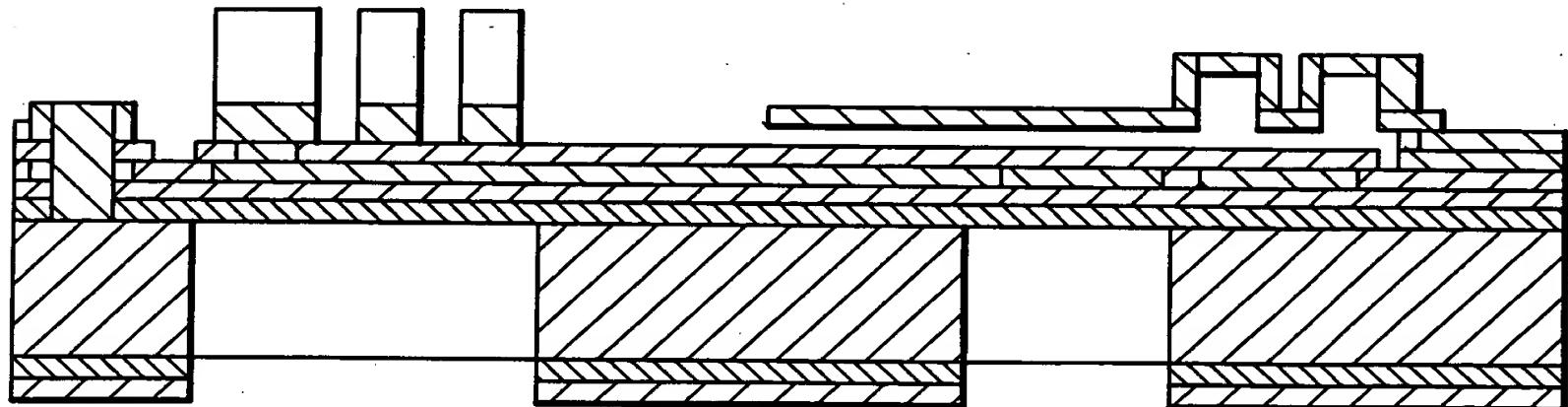
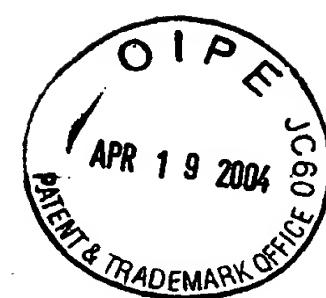


FIG.5d



S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 12 of 19
"Replacement Sheet"

12/19

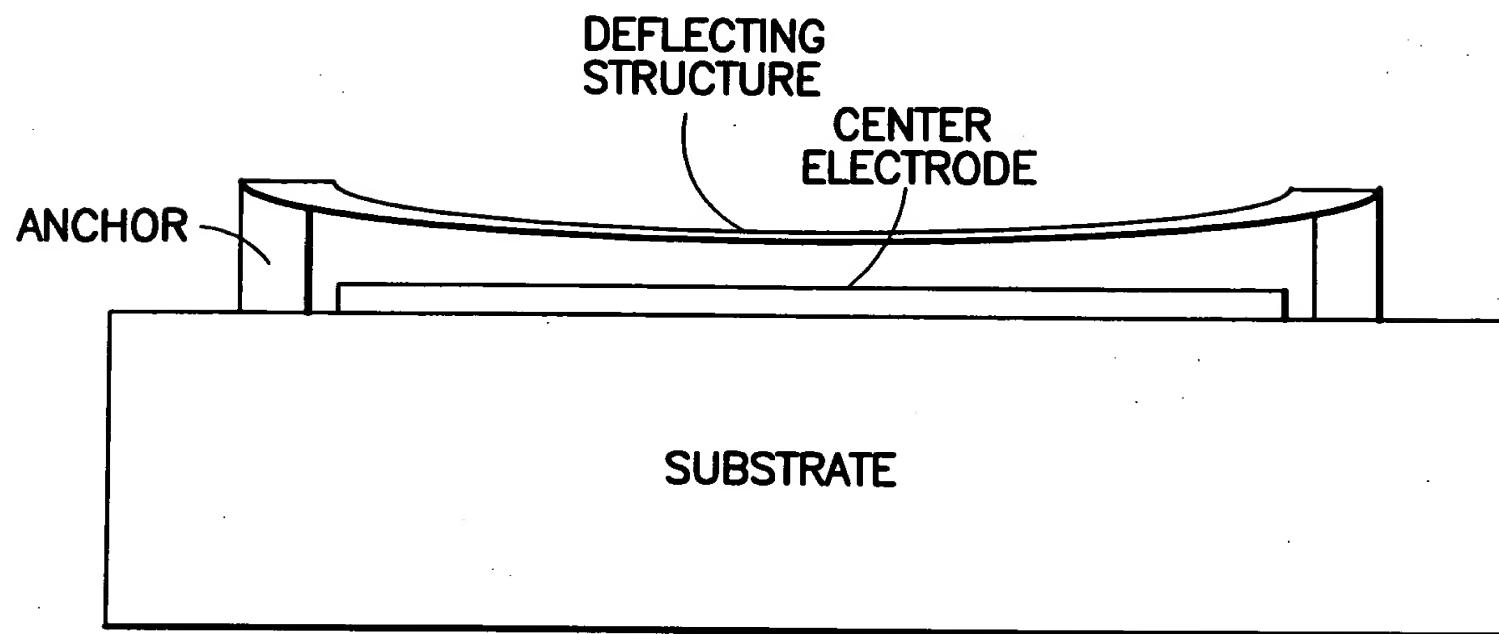


FIG. 6a
PRIOR ART

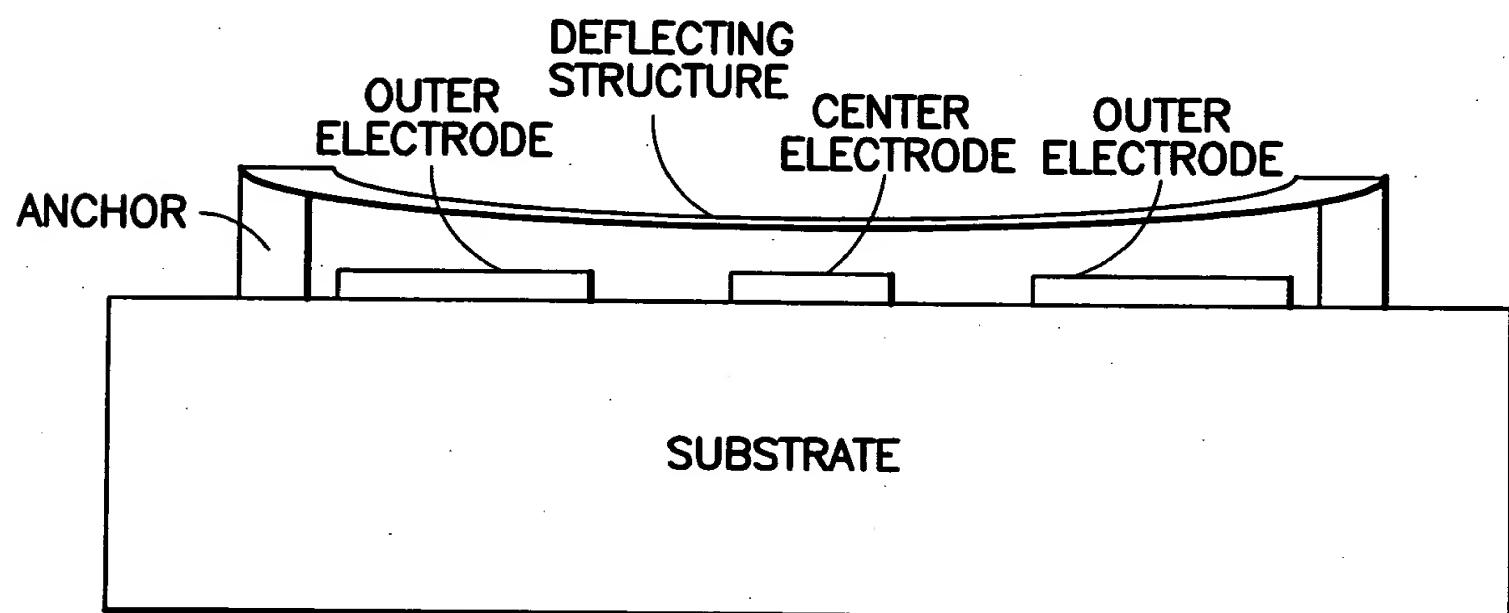


FIG. 6b

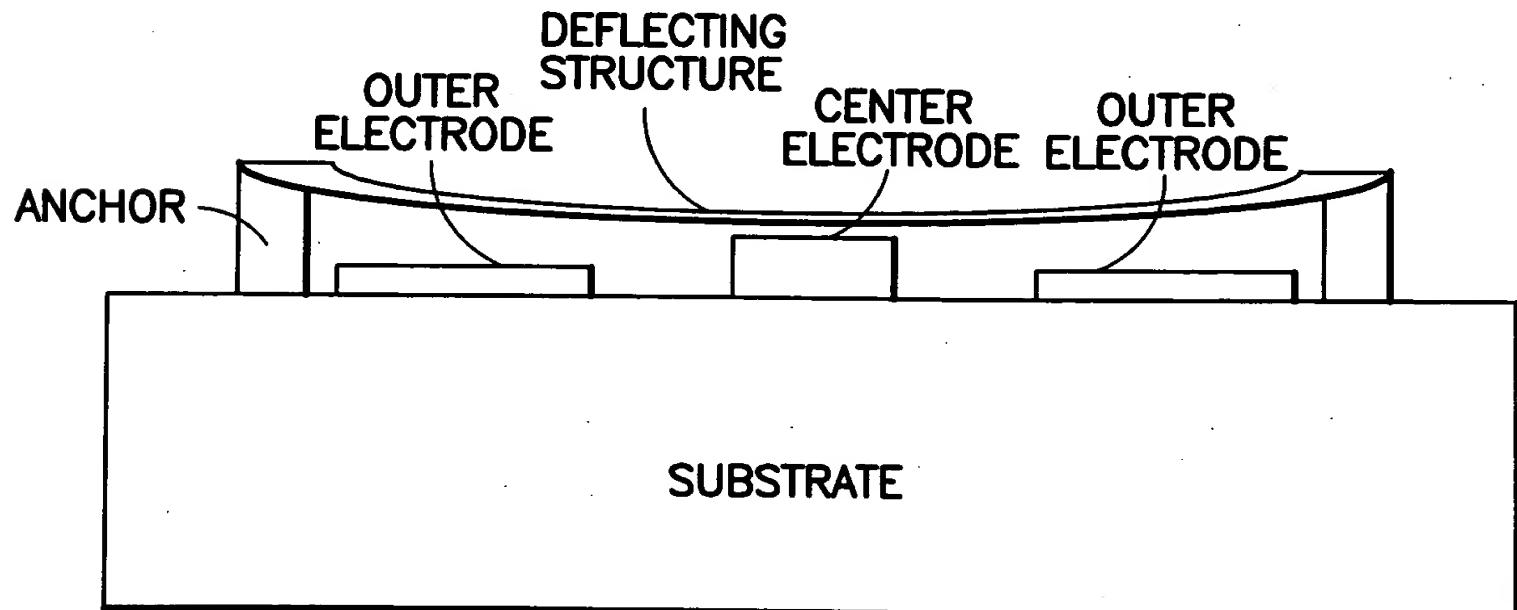


FIG. 6c



S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 13 of 19
"Replacement Sheet"

13/19

FIG.7a

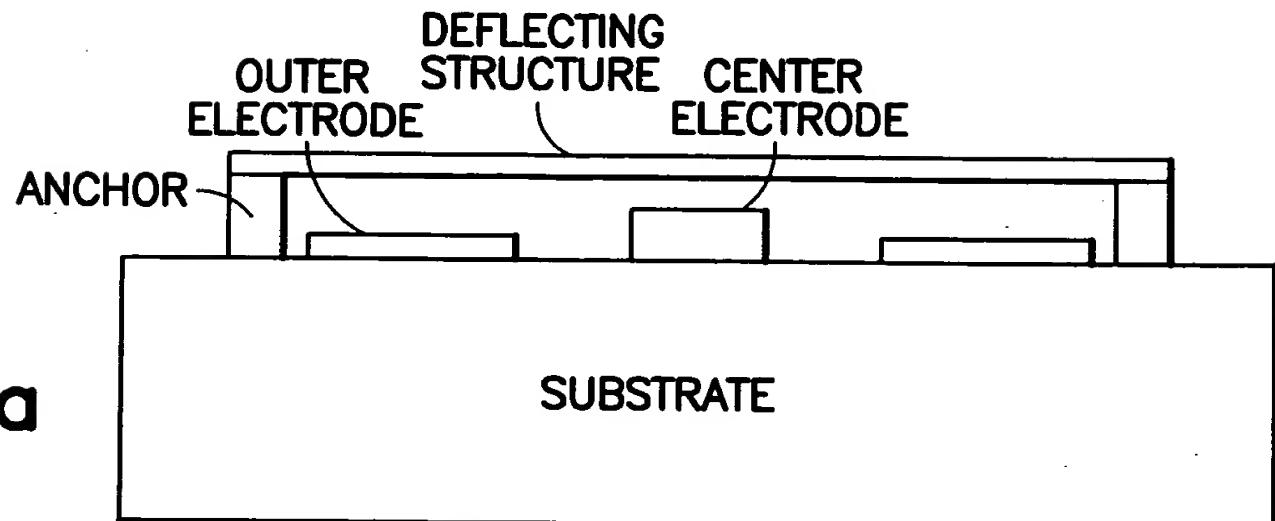


FIG.7b

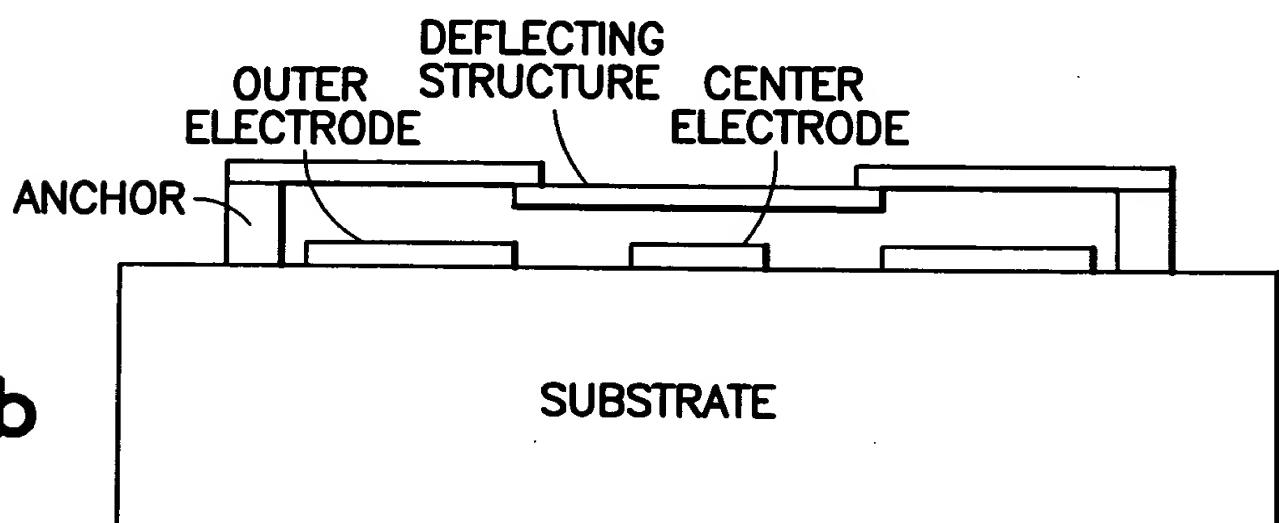


FIG.7c

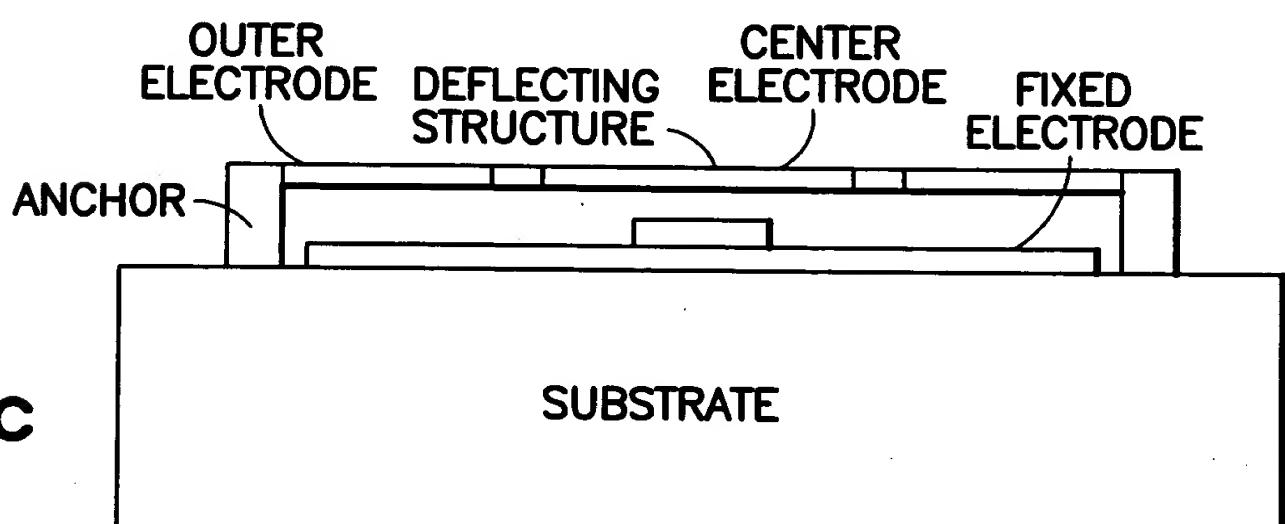
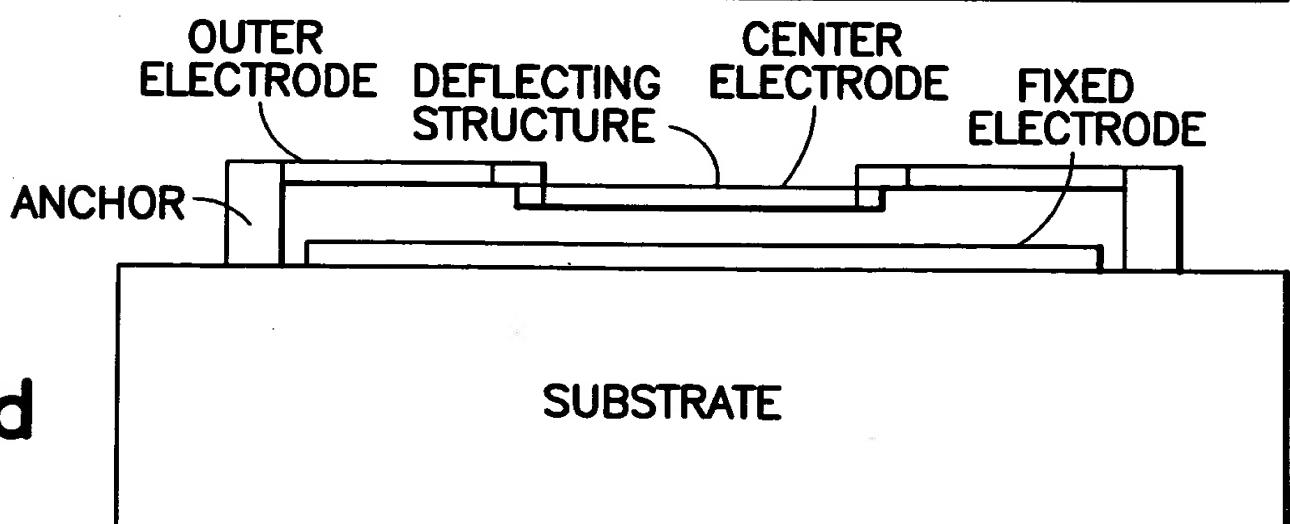


FIG.7d





14/19

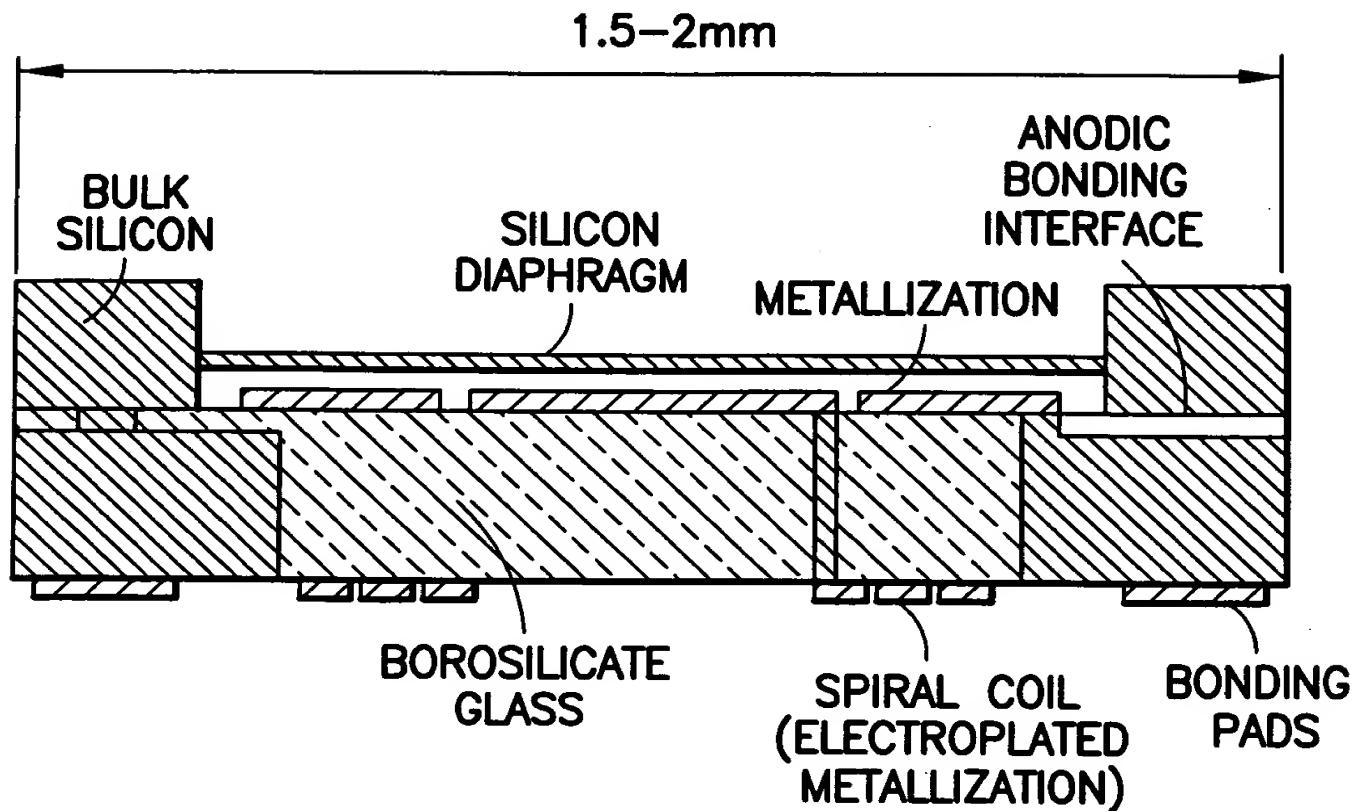


FIG.8a

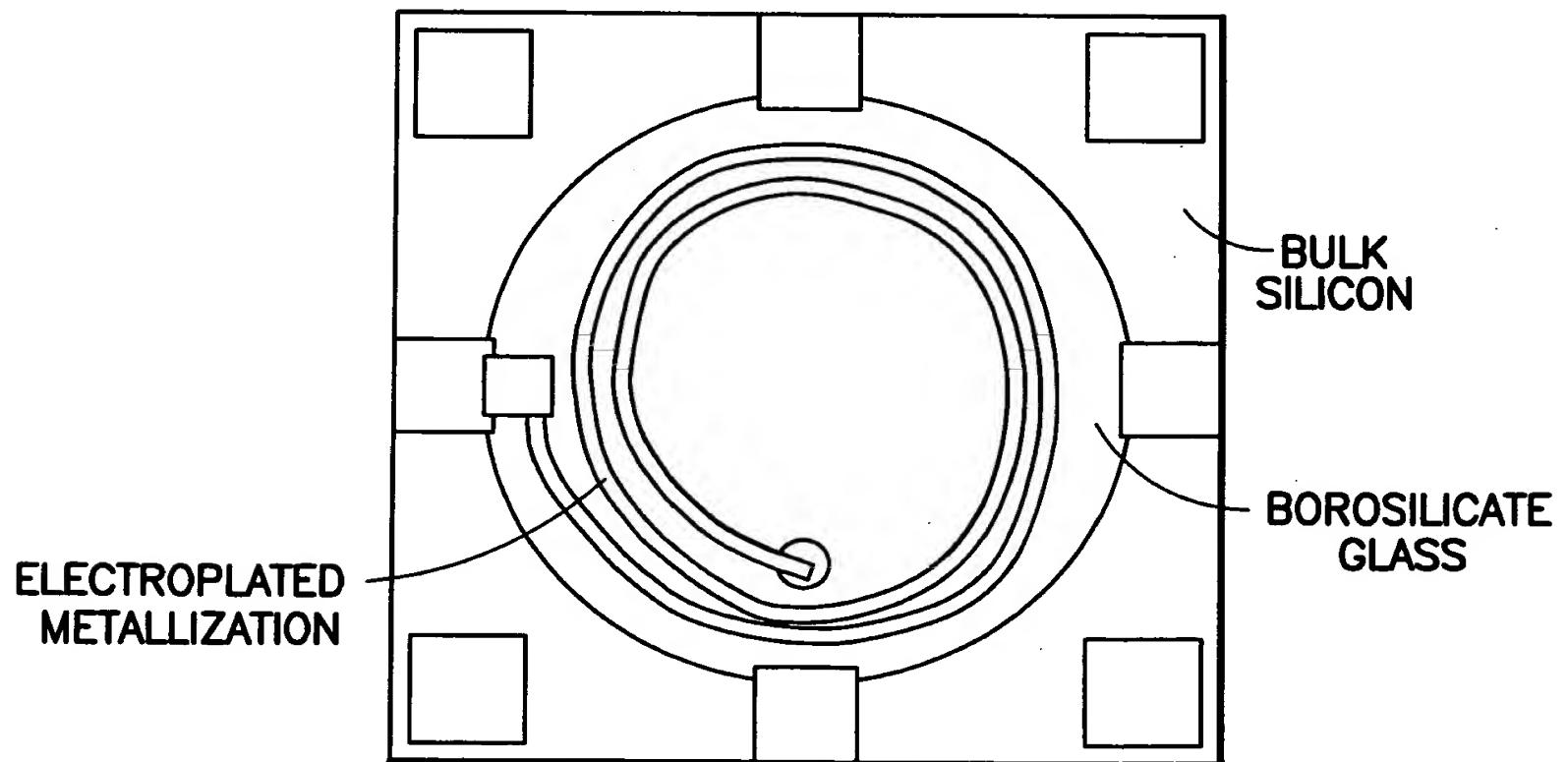


FIG.8b



S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 15 of 19
"Replacement Sheet"

15/19

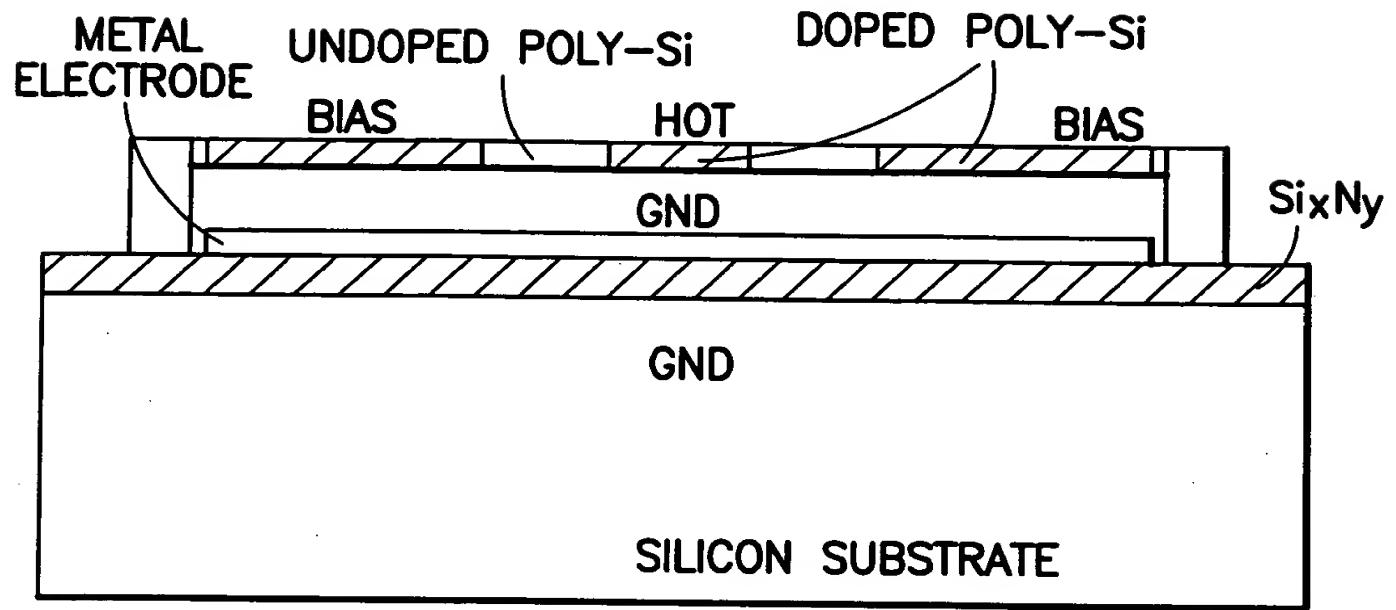


FIG.9

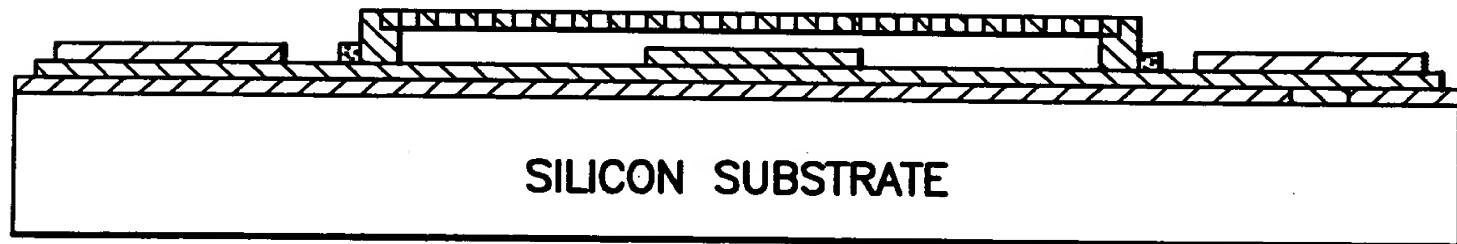


FIG.10b



S.N. 09/783,059
"MICROMECHANICAL TUNABLE..."
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 16 of 19
"Replacement Sheet"

16/19

PERFORATED
DIAPHRAGM

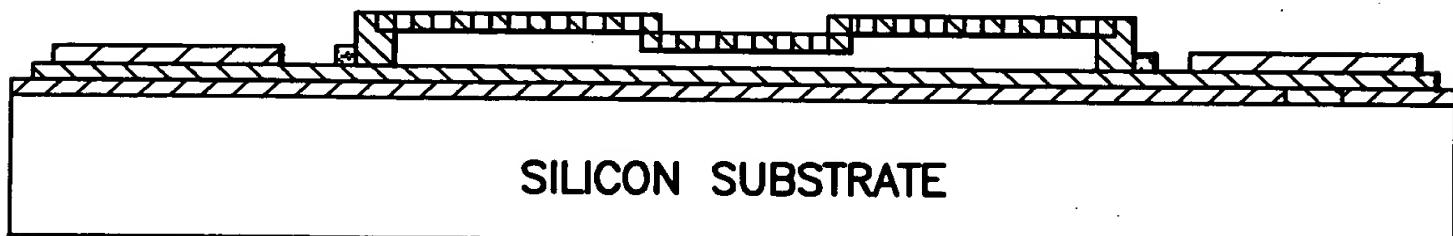
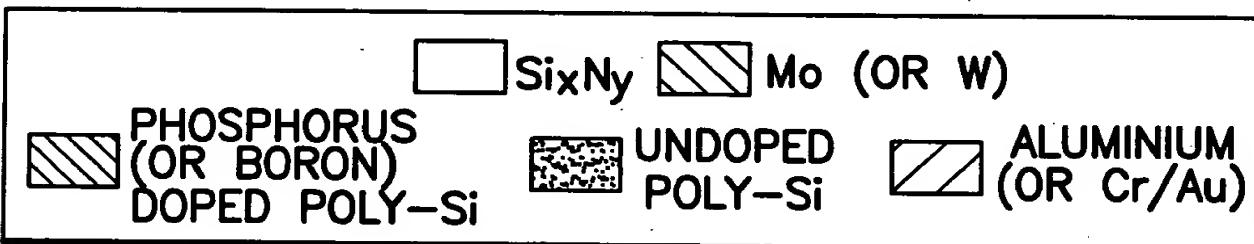
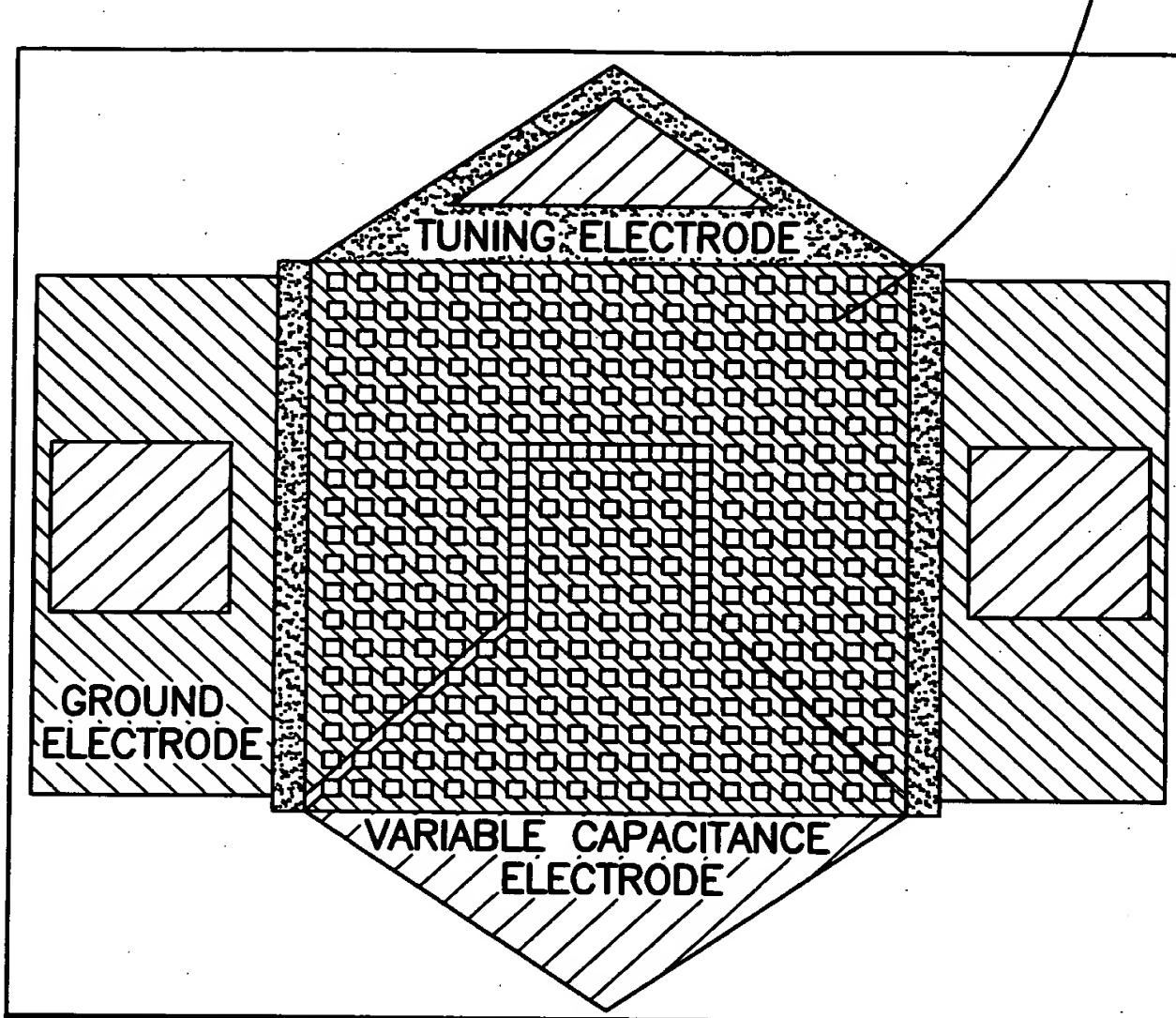


FIG. 10a



17/19

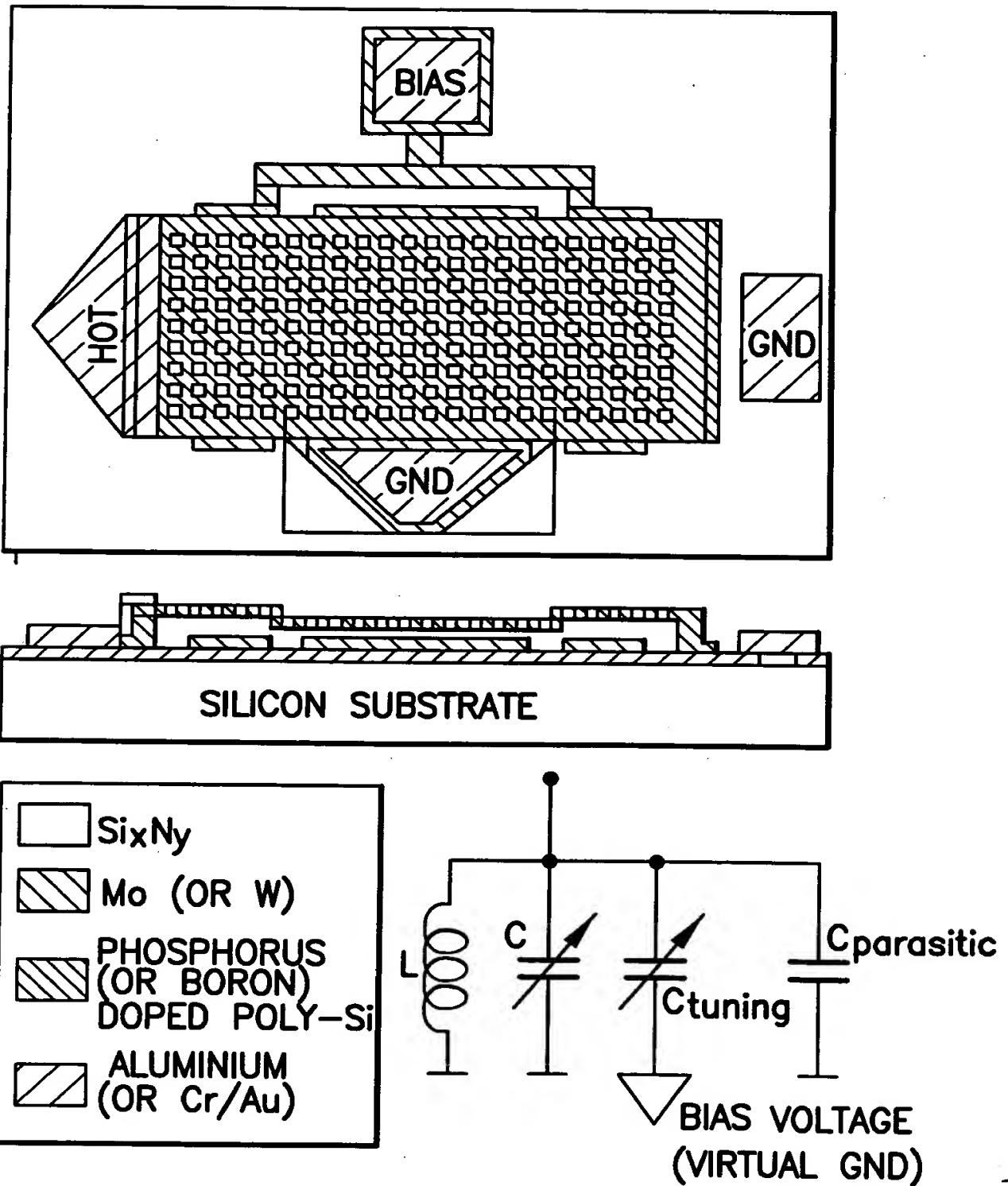


FIG.10c



S.N. 09/783,059
“MICROMECHANICAL TUNABLE...”
Inventor(s):
Docket No. 297-010113-US (PAR)
Page 18 of 19
“Replacement Sheet”

18/19

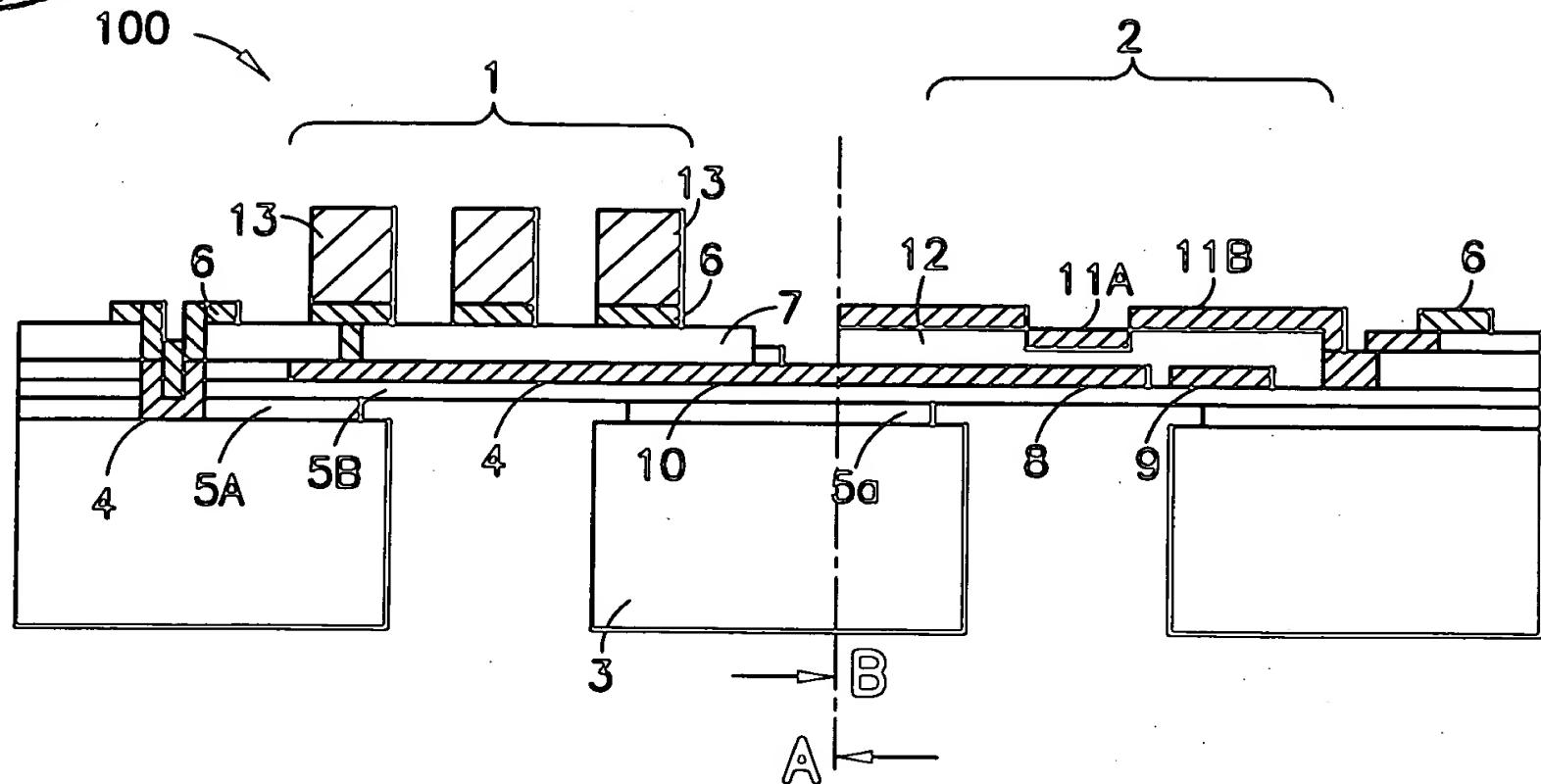


FIG. 11a

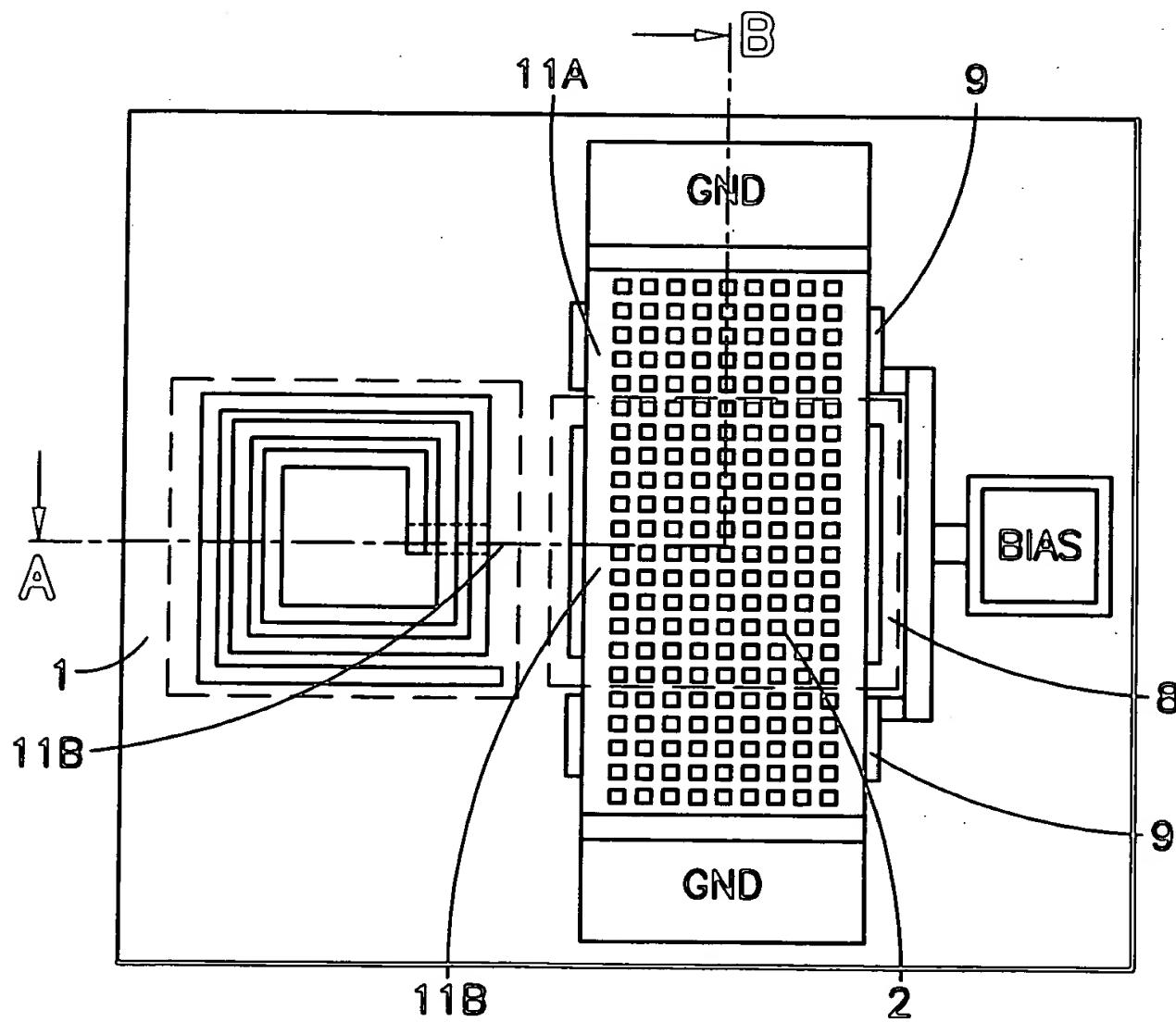


FIG. 11b

19/19

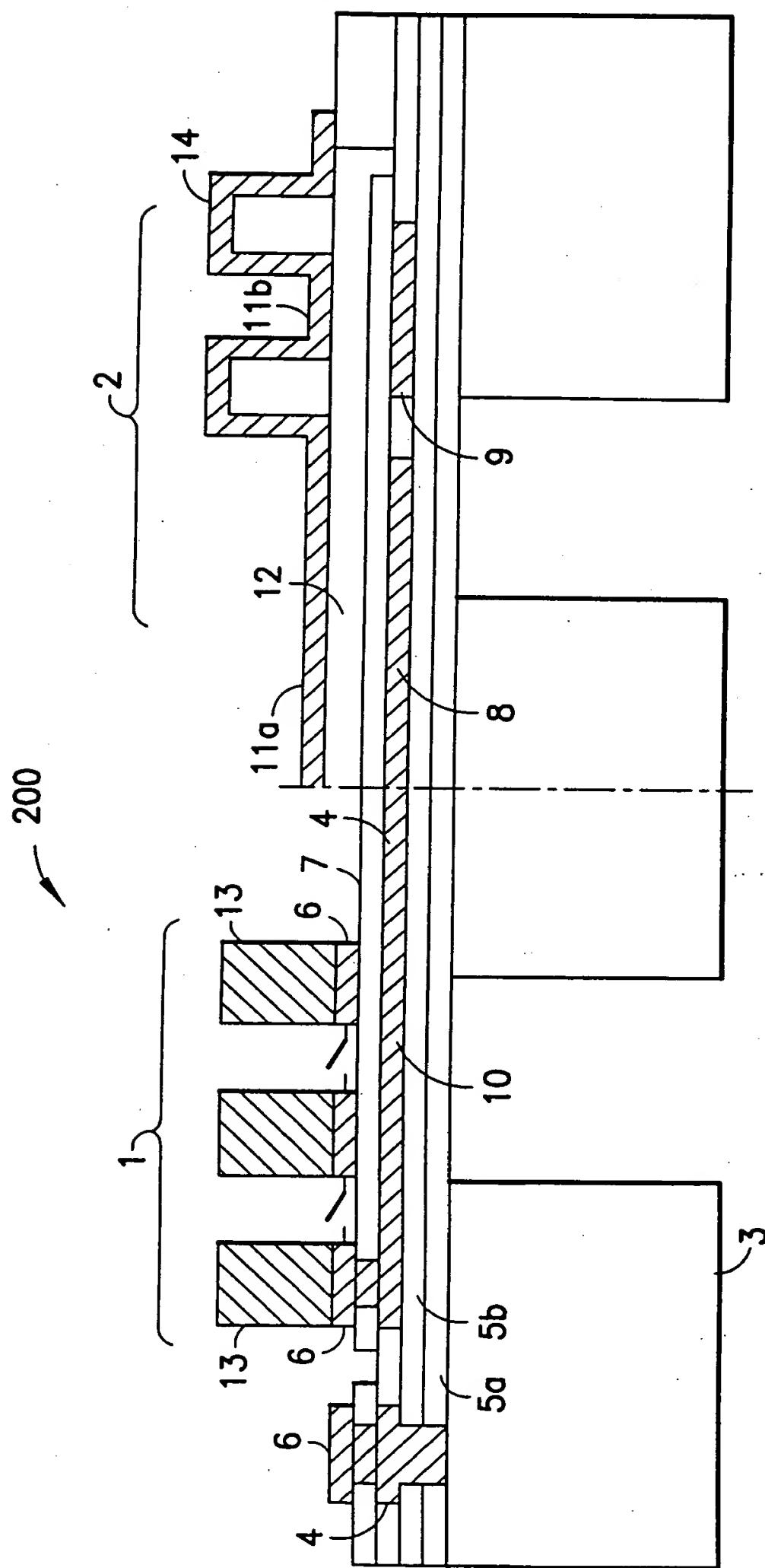


FIG. 12